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SEVENTH ANNUAL REPORT

OF

THE BOARD OF REGENTS

OF THE

SMITHSONIAN INSTITUTION

TO THE

SENATE AND HOUSE OF REPRESENTATIVES,

SHOWING

THE OPERATIONS, EXPENDITURES, AND CONDITION OF THE INSTITUTION DURING THE YEAR 1852,

AND THE

PROCEEDINGS OF THE BOARD OF REGENTS UP TO DATE.

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32d Congress, 2d *Session.* | [SENATE.] | Miscellaneous, No. 53.

LETTER

FROM THE

SECRETARY OF THE SMITHSONIAN INSTITUTION,

COMMUNICATING

The Annual Report of the Board of Regents.

March 1, 1853.—Ordered to lie on the table and be printed.

Smithsonian Institution, *August* 20, 1852.

Sir: I have the honor herewith to transmit to you the Annual Report of the Board of Regents of the Smithsonian Institution, and beg leave to request that you will present it to the Senate of the United States.

I have the honor to be, very respectfully, your obedient servant,

JOSEPH HENRY,
Secretary Smithsonian Institution.

Hon. David R. Atchison,
President of the Senate of the U. S.

1842

OFFICERS OF THE SMITHSONIAN INSTITUTION.

MILLARD FILLMORE, *Ex-officio* Presiding Officer of the Institution.
ROGER B. TANEY, Chancellor of the Institution.
JOSEPH HENRY, Secretary of the Institution.
CHARLES C. JEWETT, Assistant Secretary, in charge of the Library.
SPENCER F. BAIRD, Assistant Secretary, in charge of the Museum.
EDWARD FOREMAN, General Assistant.

ALEXANDER D. BACHE,	Executive Committee.
JAMES A. PEARCE,	
JOSEPH G. TOTTEN,	

GRAHAM N. FITCH,	Building Committee.
RICHARD RUSH,	
JOHN W. MAURY,	
JOSEPH HENRY,	

W. W. SEATON, Treasurer.

REGENTS OF THE INSTITUTION.

——— ———, Vice President of the United States.
ROGER B. TANEY, Chief Justice of the United States.
JOHN W. MAURY, Mayor of the City of Washington.
JAMES A. PEARCE, Member of the Senate of the United States.
JAMES M. MASON, Member of the Senate of the United States.
ROBERT M. CHARLTON, Member of the Senate of the United States.
GRAHAM N. FITCH, Member of the House of Representatives of the United States.
WILLIAM F. COLCOCK, Member of the House of Representatives of the United States.
JAMES MEACHAM, Member of the House of Representatives of the United States
RUFUS CHOATE, Citizen of Massachusetts.
GIDEON HAWLEY, Citizen of New York.
J. MACPHERSON BERRIEN, Citizen of Georgia.
RICHARD RUSH, Citizen of Pennsylvania.
ALEXANDER D. BACHE, Citizen of Washington.
JOSEPH G. TOTTEN, Citizen of Washington.

MEMBERS EX-OFFICIO OF THE INSTITUTION.

MILLARD FILLMORE, President of the United States.
——— ———, Vice President of the United States.
EDWARD EVERETT, Secretary of State.
THOMAS CORWIN, Secretary of the Treasury.
CHARLES M. CONRAD, Secretary of War.
JOHN P. KENNEDY, Secretary of the Navy.
SAMUEL D. HUBBARD, Postmaster General.
JOHN J. CRITTENDEN, Attorney General.
ROGER B. TANEY, Chief Justice of the United States
SILAS HODGES, Commissioner of Patents.
JOHN W. MAURY, Mayor of the City of Washington.

HONORARY MEMBERS.

ROBERT HARE,
BENJAMIN SILLIMAN,
WASHINGTON IRVING.

SEVENTH ANNUAL REPORT

OF THE

BOARD OF REGENTS OF THE SMITHSONIAN INSTITUTION,

Showing the operations, expenditures, and condition of the Institution, up to January 1, 1853.

To the Senate and House of Representatives:

In obedience to the act of Congress of August 10, 1846, establishing the Smithsonian Institution, the undersigned, in behalf of the Regents, submit to Congress, as a report of the operations, expenditures, and condition of the Institution, the following documents:

1. The annual report of the Secretary, giving an account of the operations of the Institution during the year 1852, including reports from the Assistant Secretaries, relative to the library, museum, &c.
2. Report of the Executive Committee, giving a general statement of the proceeds and disposition of the Smithsonian fund, and also an account of the expenditures for the year 1852.
3. Report of the Building Committee, relative to the progress made in 1852 in the erection of the Smithsonian edifice.
4. Proceedings of the Board of Regents.
5. Appendix relative to meteorology, &c.

Respectfully submitted:

ROGER B. TANEY, *Chancellor.*
JOSEPH HENRY, *Secretary.*

REPORT OF THE SECRETARY.

To the Board of Regents of the Smithsonian Institution:

GENTLEMEN: The object of the Annual Report of the Secretary is not only to present to the Regents an account of the transactions of the period which elapses between their successive sessions, but also to make such suggestions as may be important to the future management of the affairs of the Institution, and state such facts in reference to it as may be interesting to the public, or which may furnish a connected history of its transactions.

Since the beginning of the Institution no change has taken place in the policy originally adopted with reference to the system of active operations. The details of this plan were well considered, and its importance as the only means of properly carrying out the intention of the donor fully understood at the first. The theory of the plan was expressed in a few propositions, which have been constantly kept in view, and acted upon as far as the law of Congress and other restrictions would permit.

This plan, although prosecuted under very unfavorable circumstances, has produced results such as to render the name of the Institution favorably known wherever science and literature are cultivated, and to connect it indissolubly with the history of the progress of knowledge in our times. As a proof of this we need only state the following facts:

The Institution has promoted astronomy, by the aid furnished the researches which led to the discovery of the true orbit of the new planet Neptune, and the determination of the perturbations of this planet and the other bodies of the solar system, on account of their mutual attraction. It has also aided the same branch of science by furnishing instruments and other facilities to the Chilian expedition, under Lieut. Gilliss; and by preparing and publishing an ephemeris of Neptune, which has been adopted by all the astronomers of the world.

It has advanced geography, by providing the scientific traveller with annual lists of the occultations of the principal stars, by the moon, for the determination of longitude; by the preparation of tables for ascertaining heights with the barometer; and by the collection and publication of important facts relative to the topography of different parts of the country, particularly of the valley of the Mississippi.

It has established an extended system of meteorology, consisting of a corps of several hundred intelligent observers, who are daily noting the phases of the weather in every part of the continent of North America. It has imported standard instruments, constructed hundreds of compared thermometers, barometers, and psychrometers, and has furnished improved tables and directions for observing with these instruments the various changes of the atmosphere, as to temperature, pressure, moisture, &c. It has collected, and is collecting, from its observers, an extended series of facts which are yielding deductions of great interest in regard to the climate of this country and the meteorology of the globe.

The Institution has advanced the science of geology, by its researches and original publications. It has made a preliminary exploration of the remarkable region on the upper Missouri river called "the Bad Lands," and is now printing a descriptive memoir on the extraordinary remains which abound in that locality. It has assisted in explorations relative to the distribution in this country of the remains of microscopic animals found in immense quantities in different parts of the United States.

It has made important contributions to botany, by means of the published results of explorations in Texas, New Mexico, and California; and by the preparation and publication of an extended memoir, illustrated with colored engravings, on the sea-plants of the coast of North America.

It has published several important original papers on physiology, comparative anatomy, zoology, and different branches of descriptive natural history; and has prepared and printed, for distribution to travellers, a series of directions for collecting and preserving specimens.

It has advanced terrestrial magnetism, by furnishing instruments for determining the elements of the magnetic force, to various exploring expeditions; and by publishing the results of observations made under its direction, at the expense of the government.

It has collected and published the statistics of the libraries of the United States; and perfected a plan of stereotyping catalogues, which will render effective, as a combined whole, all the scattered libraries of the country.

The Institution has also been instrumental in directing attention to American antiquities, and has awakened such an interest in the subject as will tend to the collection and study of all the facts which can be gathered relative to the ancient inhabitants of this continent. It has also rendered available for the purposes of the ethnologist and philanthropist the labors of our missionaries among the Dakotas, by publishing a volume on the language of this tribe of Indians, and has done good service to comparative philology by the distribution of directions for collecting Indian vocabularies.

It has established an extended system of literary and scientific exchanges, both foreign and domestic, and annually transmits between the most distant societies and individuals, hundreds of packages of valuable works. It has presented its own publications, free of expense, to all the first-class libraries of the world, and thus rendered them accessible, as far as possible, to all persons who are interested in their study. No restriction of copyright has been placed on their re-publication; and the truths which they contain are daily finding their way to the general public, through the labors of popular writers and teachers. The distribution of its publications and its system of exchanges has served not only to advance and diffuse knowledge, but also to increase the reputation, and, consequently, the influence of our country; to promote a kindly and sympathetic feeling between the New World and the Old—alike grateful to the philosopher and the philanthropist.

These are the fruits of what is called the system of active operations of the Institution, and its power to produce other and continuous results is only limited by the amount of the income which can be appropriated to it, since each succeeding year has presented new and important fields for its cultivation. All the anticipations indulged with regard to it have been fully realized; and after an experience of six years, there can now be no doubt of the true policy of the Regents in regard to it.

I am well aware, however, that the idea is entertained by some that the system of active operations, though at present in a flourishing condition, cannot continue to be the prominent object of attention; and that under another set of directors, other counsels will prevail and other measures be adopted, and that what has been done in establishing this system will ultimately be undone. It is true, there is cause of fear that the policy in this respect may be changed, for the system we are here considering requires constant exertion, and is little suited to the tastes and habits of those who seek place and position from mere personal considerations. There is cause to fear, also, from the experience of the past, that the general expenses of a large building, the support of the establishment necessarily connected with it, and the cost of collecting, preserving, and exhibiting specimens of nature and art, will so increase as to paralyze the spirit of activity. Furthermore, the proposition is frequently urged upon the Regents, by persons who have not duly considered the will of Smithson, or who fail to appreciate the importance of the present plan, that a large portion of the income should be devoted to the diffusion of a knowledge of some popular branch of practical art; and there may be some fear that a timid policy on the part of the friends of the Institution will lead them to favor such a plan.

To obviate these tendencies, it is the duty of the present Regents, if they are convinced that the policy of active operations is the true one, to endeavor to correct, as far as possible, the errors which may have been committed in the beginning, and to give the Institution such an impulse in the proper direction, that it cannot deviate from it without immediately arresting the attention of the enlightened public, both at home and abroad, who will not fail to demand, authoritatively, a sufficient reason for the change.

A promise has been made to all persons in this country engaged in original researches, and who are capable of furnishing additions to the sum of human knowledge, that the results of their labors shall continue to be presented to the world through the Smithsonian publications. The honor of the Institution is also pledged to the scientific and literary societies from which it has received exchanges, in this and other countries, that it will continue to send to them at least an annual volume of contributions, of a character similar to those with which they have already been presented. It is on this condition that the library has been so richly favored, not only with the current volumes of transactions, but also, in many cases, from the oldest societies, with full sets of all the previous volumes of their series of publications. Beside this, the libraries of all the colleges and literary and philosophical societies of this country are supplied with full sets of the Smithsonian Transactions; and in this way a foretaste has been given of the fruit of the operations which will tend, in some degree, to insure their continuance.

But if, notwithstanding all this, the Institution is destined to a change of policy, what has been well done in the line we are advocating can never be undone. The new truths developed by the researches originated by the Institution, and recorded in its publications; the effect of its exchanges with foreign countries, and the results of the cataloguing system, can never be obliterated: they will endure through all coming time. Should the government of the United States be dissolved, and the Smithsonian fund dissipated to the winds, the "Smithsonian Contributions to Knowledge" will still be found in the principal libraries of the world, a perpetual monument of the wisdom and liberality of the founder of the Institution, and of the faithfulness of those who first directed its affairs.

Whatever, therefore, may be the future condition of the Institution, the true policy, for the present, is to devote its energies to the system of active operations. All other objects should be subordinate to this, and in no wise suffered to diminish the good which it is capable of producing. It should be prosecuted with discretion, but with vigor; the results will be its vindication.

It was stated in the last report that the Institution had been the contingent legatee of a considerable amount of property. During the past year the facts with reference to this bequest have been investigated, and it appears that Mr. Wynn, of Brooklyn, N. Y., deceased, left a legacy to his wife, and the bulk of his property, valued at $75,000, to his daughter, a child six years old, on condition that at the death of this daughter without issue, the property should come to the Smithsonian Institution. In making this bequest Mr. Wynn says, in his will: "I know no benevolent institution more useful and appropriate than the Smithsonian Institution at Washington."

This circumstance is highly gratifying to the friends of the Institution, not because it offers a remote possibility of an increase of the funds, but on account of the evidence it affords of the liberal views of the deceased, and of his confidence in the proper management and importance of the Smithsonian bequest. The will of Mr. Wynn induces us to believe that the right administration of the Smithsonian fund will cause similar examples of liberality on the part of wealthy individuals of our country; and in this point of view the responsibility which rests on those who have the direction of the affairs of this Institution is greater than that with reference to the good which the income itself may immediately accomplish.

Though it is scarcely to be expected that many unconditional bequests will be made, yet the example of Smithson may induce the founding of other institutions which may serve to perpetuate other names, and increase the blessings which may flow from such judicious liberality. Man is a sympathetic being; and it is not impossible that Smithson himself may have caught the first idea of his benevolent design from the example of our countryman, Count Rumford, the principal founder of the Royal Institution of London.

Bequests for special purposes, bearing the names of the testators, are not incongruous with the plan of this Institution. Lectureships on particular subjects, annual reports on special branches of knowledge, provision for certain lines of research, and libraries for general use or special reference, may be founded under the names of those who bestow the funds, and be placed under the direction of, and incorporated with, the Smithsonian Institution. The charge, however, of such bequests ought not to be accepted unless they are sufficient in themselves to meet the expenses of the object contemplated by them, and would not encumber or impede the legitimate operations of the Institution. For example: were a library of a hundred thousand volumes offered, it would be unwise to accept it were it not accompanied by the funds necessary to the erection of a building and to the proper support of the collection.

In July, 1850, a new system of accounts was introduced, which has been continued to the present time. According to this system, every payment is made by an order of the Secretary on the treasurer, who, in turn, gives his check on Corcoran & Riggs, with whom the semi-annual interest and the other income of the Institution are deposited. As often as once a quarter all the bills are examined and referred to their appropriate classes, in presence of all the officers of the Institution After the accounts are posted, they are referred to the Executive Committee for final examination.

By a reference to the report of the Executive Committee, it will be seen that the funds are in a good condition, and that though during the past year $14,047 have been paid on the building, there is still on hand, after all the expenditures for publications and other purposes, besides the original bequest, upwards of $200,000 of accrued interest. It is to be regretted that Congress has not yet acted on the petition requesting the perpetual funding of $150,000 of the last-mentioned sum. It is highly important that this money should be permanently invested as a part of the principal, so that it can neither be lost nor expended. There are no other means of effectually accomplishing this result except by funding it in the treasury of the United States. The proposition should be pressed upon Congress, though there may be, at present, no very certain prospect of success; for, if the petition be refused, and the money be afterwards lost by improper investment or injudicious expenditure, the responsibility would, in part, rest with the government.

The charge of this fund, and of all the disbursements, is attended with much solicitude. It involves a degree of responsibility which, to a person unaccustomed to large financial transactions, is very onerous. I beg leave, however, in this place, to mention the obligation which the Institution is under to W. W. Corcoran, esq., for the aid which he has, in all cases, afforded in the management of the funds, and the judicious advice which he has always given relative to their investment.

From the report of the Building Committee it appears that the contract for finishing the interior of the wings and ranges, and the rooms of the towers, has been completed. The whole interior of the main building, comprising a rectangular space of two hundred feet long, fifty wide, and about sixty high, remains to be finished with fireproof materials. It is proposed to divide this space into two stories and a basement. These stories will be devoted to the library, the museum, and a large and convenient lecture-room.

The business of the Institution would be much facilitated were this part of the building completed. Since Congress has authorized the establishment of a library and museum, it will be well to place all the objects of interest to the public in the main building, and make this exclusively the show part of the establishment, devoting the wings and ranges, and rooms of the towers, to the business operations and other purposes of the Institution. In the present condition of affairs there is no part of the edifice to which the public has not access, and, consequently, business has to be transacted amidst constant interruptions. The loss of time and effective life to which all are exposed who occupy a position of notoriety in the city of Washington, is truly lamentable; and where this is enhanced by facility of access to gratify mere curiosity, the evil becomes scarcely endurable. Progress in business, under such circumstances, can only be made by an encroachment on the hours usually allotted to rest, and that, too, at the expense of wasted energies and shortened days.

Publications.—During the past year the following memoirs, described in the previous reports, have been collected into volumes and distributed to public institutions in this country and abroad:

1. Observations on Terrestrial Magnetism.
2. Researches on Electrical Rheometry.
3. Contributions to the Natural History of the fresh-water fishes of North America.
4. First part of the Marine Algæ of the coast of the United States.
5. Plantæ Wrightianæ Texano, Neo Mexicana, Part I.
6. Law of Deposit of the Flood Tide, its dynamical action and office.
7. Description of ancient works in Ohio.
8. Occultations visible in the United States during the year 1852.
9. A Grammar and Dictionary of the Dakota language.

The memoir last mentioned occupies an entire volume, the fourth of the Smithsonian series of contributions. The other memoirs are contained in the third volume of the same series.

The remaining memoirs, described in the last report, are still in the press, the printing of them having been delayed by the exhaustion of the appropriation for the year, and by several necessary corrections. A sufficient number of papers will, however, be printed in the course of a few months, with the new appropriation, to complete the fifth volume of Contributions; and if the means prove sufficient, we can readily issue the sixth volume during the present year.

The result of the plan of publication has fully realized the anticipations which were entertained regarding its usefulness. It supplies the food it feeds upon. The appearance in the Contributions of a memoir on any subject immediately directs attention to that subject, and induces other laborers to engage in the same field of exploration. This is particularly manifest in the interest awakened with regard to the antiquities of our country, and to the languages of the Indian tribes, by the publications of the Institution on these subjects.

The following is an account of the memoirs received since the date of the last report:

Contributions to the History of the Marine Algæ of North America: By Dr. W. H. Harvey: Part 2.

In the report for 1850 an account was given of the acceptance for publication of an extended and expensive memoir on the Marine Algæ of the eastern and southern coasts of the United States, by Prof. Harvey, of the University of Dublin. The first part of this memoir was published last spring, and has found much favor with the botanical world, as well as with the inhabitants and visitors of our seaboard. The second part of the same memoir is now printed, and will be ready for distribution in the course of a few weeks. It is illustrated by twenty-four plates, and comprises 240 pages of printed matter.

The common name of the class of plants which forms the subject of this memoir, viz: seaweeds, has subjected the Institution to the charge of expending its funds on trifling and unworthy objects; and as the same objection may be made to many of the papers forming the series of Smithsonian Contributions, a few words in vindication of researches of this character may not be inappropriate.

Nothing in the whole system of nature is isolated or unimportant. The fall of a leaf and the motion of a planet are governed by the same laws. The structure of a lichen and the formation of an oak are equally the result of definite plans. It is in the study of objects considered trivial and unworthy of notice by the casual observer that genius finds the most important and interesting phenomena. It was in the investigation of the varying colors of the soap-bubble that Newton detected the remarkable fact of the fits of easy reflection and easy refraction presented by a ray of light in its passage through space, and upon which he established the fundamental principle of the present generalization of the undulatory theory of light. Smithson himself, the founder of this Institution, considered the analysis of a tear as nowise unworthy of his peculiar chemical skill; and well might he so consider it; for the knowledge of the composition of every secretion of the body is of importance, in a physiological point of view, as well as in the preservation of health and the cure of disease. The study of the cause of the spasmodic muscular contraction of a frog, when brought into contact with two pieces of metal, revealed to Galvani the first facts of the branch of science which now bears his name. The microscopic organization of animals and plants is replete with the highest instruction; and, surely, in the language of one of the fathers of modern physical science, "nothing can be unworthy of being investigated by man which was thought worthy of being created by God."

These remarks are particularly applicable to the study of the lower classes of the organic creation. Nature everywhere exhibits economy of means in attaining the most complex and diversified ends. Every result is produced in the simplest manner when viewed in relation to the whole design. All parts of organized beings, whether plants or animals, are formed of a few elementary structures, variously transformed and combined. To obtain a knowledge of the plan and process of organization, we must begin with the most simple combinations, precisely as we would do in the study of mathematical analyses, in which the student commences with the least complicated formula, and gradually proceeds to those of a more involved character. It is for this reason that the study of the algæ, or seaweeds, is of special interest to the physiologist. The framework of every vegetable is built up of cells or little membranous sacks. All vegetable structures, whether wood, bark, or leaves, are formed of aggregations of these cells, differently moulded and united. As we pass along the series of organized forms, we may descend from those of a higher to those of a lower complexity, until, in the class of algæ, we arrive at plants of which the whole body is composed of a few cells strung together; and finally at others, the simplest of organized bodies, whose entire framework is a single cell. Now, it is only by a critical study of these rudimentary forms, and by tracing them into their complex combinations, that man can ever hope to arrive at a knowledge of the laws of organization. We might speak of the importance of a knowledge of the algæ in their application to agriculture and the chemical arts. But what we have here stated will be a sufficient reason for their study, independent of all minor considerations.

The next memoir consists of an account of a series of researches in the comparative anatomy of the frog, by Dr. Jeffries Wyman, of Cambridge, Massachusetts.

The whole animal kingdom may in one sense be considered as the different development of four separate plans of organization, giving rise to four different classes of animals, viz: the Radiata, the Articulata, Mollusca, and Vertebrata. Whatever discovery is made with regard to the organization of any of the species belonging to any one of these classes, tends to throw light on the organization of the whole class, and it is only by the careful study of all the different animals of a class, and a comparison of their analogous parts, that we can arrive at a knowledge of the general laws which pervade the development of the whole. Thus the study of human anatomy is the basis of the investigation of the anatomy of all animals with a back-bone; and conversely, the anatomy of any animal of this class tends to throw light on that of man.

Dr. Wyman's paper gives an account of a series of elaborate investigations of the nervous system of a very common, but, in a physiological point of view, highly interesting animal.

The following are the several points of the memoir:

1. An anatomical description of the more important part of the nervous system.

2. Comparisons between them and the corresponding organs or other animals, both higher and lower in the scale.

3. The metamorphoses which they undergo, especially the spinal chord and some of the cranial nerves, showing the existence of a more complete analogy between the immature condition of Batrachian reptiles and the class of fishes, than has hitherto been noticed.

4. An application of the facts observed in connexion with the cranial nerves to the philosophical anatomy of the nervous system, showing

what is believed to be the true nature of the special sense nerves, as contrasted with other cranial or the true spinal nerves, and the conformity of the other cranial nerves to the common spinal type.

The next communication has the following title: "Plantæ Wrightianæ Texano, Neo Mexicano, Part 2. By Dr. Asa Gray, Professor of Botany in Harvard University."

It has been stated in two of the preceding reports that a small appropriation was made for botanical explorations in Texas and New Mexico, and that the results had been placed in the hands of Dr. Gray for scientific investigation. The first memoir on this subject was described in the last report. It has been printed, and copies distributed to all the working botanists in this country and Europe. It also forms a part of the third volume of the "Smithsonian Contributions."

The object of the present memoir is to give a scientific account of the collections made by Mr. Wright, under the direction of Col. J. D. Graham, U. S. Topographical Engineers, and Major W. H. Emory, of the Boundary Commission, in New Mexico and in Eastern Texas, during the summer and autumn of 1851, and the spring and early part of the summer of 1852.

The description of the plants from this region was previously carried as far as the order *compositæ*. In the present paper, Dr. Gray gives a similar account of the recent collections up to the same point, and reserves the other portions of these collections made by Mr. Wright, with the remainder of the undescribed plants of Fendler and Lindheimer, to be described in a general memoir. One portion of the collection was made from July to November, from El Paso to the Copper Mines of Santa Rita del Cobre, in the southwestern part of New Mexico; and thence into the northern part of the Mexican State of Sonora, as far as Santa Cruz, returning to the Copper Mines by way of Guadalupe Pass, and thence back to El Paso. The plants obtained during this tour are of exceeding interest, and comprise a larger portion of new species than any other collection that has fallen into Dr. Gray's hands. Another portion was obtained in the vicinity of El Paso and the rancho of Frontera, and down the Rio Grande for sixty or seventy miles; also, up the valley of the river as far as Camp Fillmore, and thence into the Orange mountains, which bound the valley on the east. Another collection was made in a hasty excursion to Lake St. Marie and Lake Gustman, in Chihuahua. These several collections afford many novelties; no botanist having previously explored this region at the same season of the year.

It is expected that a full account of the topography and productions of this country will be given in the reports of Colonel Graham and Major Emory.

The interest which attaches to the results of explorations of this kind is not confined to the botanist, but extends to the physical geographer and the political economist. An accurate description of the botany of a region is a sure guide to a knowledge of its power of producing and sustaining vegetable and animal life, and consequently of its value in a commercial and political point of view.

Dr. Leidy, of Philadelphia, has presented a memoir on the extinct species of the ox of America. In this paper he indicates the former existence of four species of the ox which were probably cotemporaneous with the *Mastodon* and the *Megalonyx*. Fossil remains of these animals have been frequently found in the United States, and descriptions of them are scattered through various works; but no approach has before been made to a correct view of the number and character of the species. The present existing species of ox are found indigenous in every part of the world except South America and Australia, and this is the more remarkable because the domestic ox introduced into the former country by Europeans exists in immense herds on the pampas in a wild state. There is a similar fact with regard to the horse. America at the period of its discovery possessed no indigenous quadruped of this kind, though the climate is highly favorable to its existence, and the remains of two extinct species are frequently found. Two of the species of ox described by Dr. Leidy belong to the genus Bison, and one of these is of gigantic size. The other two species belong to a new genus called *Bootherium*.

Another memoir presented by the same author forms an interesting addition to our knowledge of the extinct gigantic sloth tribe of North America. It comprises a description of remains of the *Megalonyx*, *Mylodon*, *Megatherium*, and of a new genus called *Eriptodon*.

The scientific world is indebted for the first account of the remains of a large extinct quadruped of the sloth tribe to President Jefferson. Fragments of the bones of this animal were found in a saltpetre cave in Greenbrier county, Virginia. They were regarded with little or no interest by the persons who first observed them; and as they encumbered the saltpetre bed, would probably have been thrown out and suffered to decay, had not the news of their existence reached the ears of the distinguished individual before mentioned. Though devoted to politics, he was too much of a philosopher not to see in these mouldering fragments of a skeleton, objects of high interest connected with the past history of our globe. He described them in a memoir published in the Transactions of the American Philosophical Society at Philadelphia in 1797, and gave to the animal to which they belong the name of *Megalonyx*, or the great claw. The materials, however, in his possession were too scanty to allow of his determining the true character of the quadruped. Dr. Wistar, of Philadelphia, suspected the animal to have been a gigantic sloth; and this was confirmed by Cuvier, from the ample materials for comparison at his command. The original bones described by Jefferson were preserved in the collection of the Philosophical Society; but besides these, Dr. Leidy had access to specimens of the remains of the same animal, found in different parts of the United States. From the study of these he has been enabled to throw much additional light upon the characters of the *Megalonyx*. He considers that the only remains yet known are confined to those found in the United States, and satisfactorily proves that the lower jaw of an extinct quadruped discovered by Dr. Darwin in South America, and referred by naturalists to the *Megalonyx* of Jefferson, does not belong to an animal of the same genus.

The remains of the *Mylodon*, or gigantic sloth, were first discovered by Darwin in his researches in the southern part of South America.

Remains of another species found in North America were described by Dr. Harlan, but were erroneously referred to the *Megalonyx*. Dr. Leidy, in his memoir, describes the collection of the remains of this animal belonging to the New York Lyceum.

The *Megatherium*, which is the largest of all the extinct sloth tribe, when full grown, was more than fourteen feet long, including the tail, and eight feet high. It was first discovered in South America, but has since been found in Georgia; and it was from this locality, the only one in the United States yet known, that the remains described by Dr. Leidy were obtained.

The fourth and new genus of American sloths, called the *Eriptodon* by the author, is established upon a peculiar form of teeth which belonged to an animal of about the size of the *Megalonyx*, the bones of which were also found in Georgia.

Dr. Hays, one of the commission to which this memoir was submitted, remarks in his report, that "the author has not only made valuable additions to our knowledge of an interesting tribe of animals, but has also collected and arranged the facts previously known so as to throw new light on the subject, and to render his memoir an important starting point for future investigators."

Grammar of the Choctaw language.—The publication of the volume on the Dakota language, described in the last report, has called forth another important memoir on comparative philology, namely, a grammar of the Choctaw language, by the Rev. Harvey Byington, for thirty years a missionary among the Indians.

It was referred for examination to Professor Felton, of Cambridge, and to Professor Gibbs, of Yale College, both of whom pronounced it an important addition to ethnology, and warmly recommended its publication. The work was afterwards placed in the hands of Professor W. W. Turner, formerly Professor of Hebrew in the New York Theological Seminary, now librarian of the United States Patent Office. Previous to sending it to the press, the author, after numerous interviews with Professor Turner, concluded that his memoir was susceptible of so much improvement by a further study of the language, that he asked leave to withdraw it for a time. This request was of course granted, and Mr. Byington has returned to his missionary labors, and will again present the work after it has received the desired improvements

Reports and other minor publications.—Since the date of the last report to the Regents, the following articles have been printed and partially distributed:

1. Directions for making collections in natural history. This is a pamphlet of twenty-four pages, by Professor Baird, and is much called for by the correspondents of the Institution.

2. A work by Professor Jewett, containing an exposition of the system adopted by the Smithsonian Institution for constructing catalogues of libraries, by means of separate stereotype titles, with rules for the guidance of librarians, and examples for illustration. This work is comprised in seventy-eight pages, and though not large, it has been produced at the expense of much time and labor.

3. A second emission of the report on the recent improvements in the chemical arts has been printed, and in part distributed. This work

is stereotyped, and therefore copies can be supplied at any time, at a comparatively small cost.

4. A description of the portraits of the North American Indians in the gallery of the Smithsonian Institution, by the painter of the portraits, J. M. Stanley, esq. This is a pamphlet of seventy-six pages, and contains brief sketches of the characters and incidents in the history of forty-three different tribes of Indians.

5. The first part of the collection of tables to facilitate meteorological and other calculations, by Professor Guyot: this was mentioned in the last report, and has been stereotyped and distributed. It is a very acceptable present to the meteorological observers of the Institution, and other persons engaged in scientific investigations.

Several reports on different subjects are in progress of preparation; but the appropriation for this part of the programme of operations is at present so small, that the completion of them has not been urged upon the authors. The first part of the report on forest trees, by Dr. Gray, of Cambridge, will be ready for the press the latter part of the present or beginning of the next year.

Distribution of publications and exchanges.—Copies of the Smithsonian Contributions to knowledge are sent to all the first-class libraries and literary and scientific societies of the world, and in return the Institution receives an equivalent in Transactions and other publications. After the printing of the first volume of Contributions was completed, a copy of it and of the programme of organization were sent to the principal foreign literary and scientific institutions, with the request that they would exchange publications, on the condition that a volume of equal importance should be presented to them annually. At first the number of responses to this proposition was small; but since the character of the Institution has become known and appreciated, the works received in exchange have rapidly increased in number and importance. The whole number of articles received during 1852 is four thousand seven hundred and forty-four, which is more than three times that of all the previous years. The publications received in many cases consist of entire sets of Transactions, the earlier volumes of which are out of print, and cannot be purchased. They are of use in carrying on the various investigations of the Institution, and of value to the country as works of reference. They ought not to be considered donations to the library, but the products of the active operations, which the Institution is at liberty to dispose of in the manner best suited to further its designs. The principal object, however, of the distribution of the Smithsonian volumes, is not to procure a large library in exchange, but to diffuse among men a knowledge of the new truths discovered by the agency of the Smithsonian fund. The worth and importance of the Institution is not to be estimated by what it accumulates within the walls of its building, but by what it sends forth to the world. Its great mission is to facilitate the use of implements of research, and to diffuse the knowledge which this use may develop. The Smithsonian publications are sent to some institutions abroad, and to the greater majority of those at home, without, any return except, in some cases, that of co-operation in meteorological and other observations. Applications for these publications have now become so numerous that the edition printed will supply but a part of the demand, and it becomes a difficult matter to select the places which will best subserve the object of rendering them accessible to the greatest number of persons who would be benefited by their perusal.

In connexion with the distribution of its own publications, the Institution has adopted an arrangement to promote and establish a more general exchange of literary and scientific productions between this and other countries. For this purpose it receives packages from societies and individuals in the different parts of the United States, and transmits them to England or the continent, and through its agents distributes them to the parties for whom they are intended. It also receives the articles sent in return, and forwards them to those to whom they are addressed. To facilitate this operation, the packages to the Institution are addressed to the collector of customs in New York, and by him, on the certificate of the Secretary, admitted free of duty, and without the delay of an examination.

In carrying out this plan, the Institution is much indebted to the liberal course adopted by the government of Great Britain, and to the ready co-operation of the Royal Society of London. All packages intended for Great Britain, for some parts of the continent, and the East Indies, are directed to the care of the Royal Society, and on the certificate of its president are, by a special order of the government, admitted duty free, and without the delay and risk of inspection. The packages are afterwards distributed by the agent of the Institution, or by those of the society.

This system of exchange does not stop here. The Royal Society has adopted the same plan with reference to Great Britain, and all other parts of the world; and the Smithsonian Institution, in turn, becomes an agent in receiving and distributing all packages the society desires to send to this country. A general system of international communication, first started by the Institution for the distribution of its own publications, has thus been established, which will tend to render the results of the labors of each country in the line of literature and science common to all, and to produce a community of interest and of relations of the highest importance to the advance of knowledge, and of kindly feeling "among men."

The results of the operations of the system of foreign exchanges during the year 1852, are exceedingly gratifying. The whole number of packages sent out, including the Smithsonian publications, is 572, containing 9,195 articles, and weighing 9,855 pounds. There have been received, in addition to the 4,745 articles for this Institution, 637 packages, containing an unknown number of volumes, for other institutions in this country. The details of the business of the exchanges are intrusted to Professor Baird, and I would refer, for a particular statement of all the facts connected with it, to his report, herewith submitted.

The planet Neptune.—It has been mentioned in the last annual reports that Mr. S. C. Walker, of the U. S. Coast Survey, prepared, at the expense of the Smithsonian Institution, a memoir containing an exposition of the elements of the true orbit of the planet Neptune, and that from this orbit and the mathematical investigation of Professor Pierce of Cambridge, an ephemeris of Neptune had been deduced, which has been accepted by all the astronomers of the world, as the only certain guide to the position of the planet. This ephemeris was prepared for 1848 and 1849, at the expense of the Institution; but since the last mentioned date it has been calculated at the expense of the appropriation for the Nautical Almanac, while the cost of printing and distribution has been defrayed by the Institution. The same arrangement will continue for the ephemeris of 1853 and 1854, after which the whole will be turned over to the Nautical Almanac.

Occultations.—The moon in her passage eastward around the earth continually passes between us and the fixed stars or planets which lie in her path, and obscures them from our view. The instant of the disappearance of a star behind the moon, or the occultation of a star, as the phenomenon is called, can be noted by observers widely separated from each other, and hence this phenomenon becomes a ready means of determining the difference of longitude between two places. The employment of occultations for fixing geographical positions is easy, and leads to accuracy in the results. The telescope may be of moderate size, and requires no accurate adjustment; the position assigned it may be such as to suit the convenience of the observer. The frequent occurrence of occultations renders the use of them of great importance to the travelling observer, and the publication of lists of these, and of tables for their reduction, is essential to the improvement of geography. They are of particular value in this country on account of the frequent exploring and surveying expeditions now carried on by our government and our people, and to be continued for an indefinite time in the extensive territory of the West and the newly acquired possessions of the Southwest. Tables of occultations were prepared and published at the expense of this Institution for 1849 and 1850, but for subsequent years the expense of their preparation has been defrayed by the appropriation for the Nautical Almanac, under the direction of Lieut. Davis, while the composition and press-work is still at the expense of the Institution. As soon as the Nautical Almanac is fully commenced, the publication of these tables will be entirely relinquished to this enterprise of the government.

Up to 1850 the tables published were of occultations visible in the United States. Since, however, the preparation of the tables has been in charge of the director of the Nautical Almanac, the list has been so extended as to make it useful to geographers in general as well as to those of the United States. This extension was rendered important on account of the surveys undertaken by our government in other parts of the globe. Also, a table has been added, giving the correction of the latitude due to the oblate spheroidal figure of the earth.

When we consider the character and condition of the vast continent of North America, which it belongs to us chiefly to reduce to a habitable and civilized state, we shall perceive that the practical scientific explorer has no higher duty than to settle the geography, the magnetism, the natural history, and the climate of these regions.

Researches.—At the session of the Regents in 1849, an appropriation was made to supply Lieutenant Gilliss with a telescope for his expedition to Chili, to aid him in his observations for a new determination of the distance of the inferior planets, and, consequently, of the actual distances of the several members of the solar system. A subsequent appropriation was made for the purchase of an astronomical clock for the same purpose. The first appropriation was repaid to the Institution by a grant from Congress to cover the expenses of the expedition, and the second will also be reimbursed by the purchase of the clock and all the other instruments by the Chilian government, for the permanent establishment of an observatory in that country.

By these operations, the Institution has been the means of rendering essential aid to science, without, in the end, diminishing the amount of its income. Lieutenant Gilliss, after voluntarily exiling himself from his family and his country for four years, has returned with a rich harvest of materials in astronomy, meteorology, magnetism, and natural history, in the reduction, generalization, and description of which the Institution may also furnish important aid.

The sum of one hundred and fifty dollars has been advanced to Prof. C. B. Adams, of Amherst College, to defray in part the expense of an exploration of the molluscs of the West Indies. This subject is intimately connected with the geological changes which have taken place on the surface of our globe; and it was particularly with reference to this point that Prof. Adams has undertaken these researches. This is his second expedition to the same regions; and in both instances the Smithsonian Institution has seconded his proposition, and warmly recommended it to the favorable consideration of the trustees of Amherst College. A small sum appropriated in this way, though not enough in itself to produce much effect, is still sufficient to complete the amount to be raised, and thus serve to determine the commencement of the enterprise.

Meteorology.—The general system of observations relative to the meteorology of the continent of North America, described in the previous reports, has been continued and extended. It consists at present of the following classes, viz:

1. The Smithsonian system proper, made up of voluntary observers in different parts of the United States, who report immediately to the Institution.
2. The system of observations of the University of the State of New York, re-established under the direction of this Institution, and supported by the State of New York.
3. The system of observations instituted under the direction of this Institution, by the State of Massachusetts.
4. The extended system of observations made at the several military posts of the United States, under the direction of the Surgeon General of the army.
5. Separate series of observations by exploring and surveying parties, in some cases directed, and in part furnished with instruments, by this Institution.
6. Meteorological records from British America, consisting of observations made at the various posts of the Hudson's Bay Company, and at the residence of private individuals in Canada.

In the first three of these classes there are about two hundred observers distributed over the entire continent. In the older States they are very thickly distributed, and they are entirely wanting in none. Texas, Arkansas, Indian Territory, Missouri, Iowa, and Minnesota, have each competent and reliable observers reporting directly to the Smithsonian Institution, in addition to those at the military posts, which are in the same regions.

Farther westward, and more widely separated, the observers at the military posts, and those of surveying and exploring parties, continue the connexion of the system to the Pacific coast, where the number of military posts is greater, and private observers are again found.

The New York system embraces twenty-five academies as stations, furnished with new and reliable instruments at the expense of the State.

In Massachusetts twelve sattions are furnished in like manner, of which eight have reported.

In 1852 ninety-seven military posts reported meteorological observations, and for 1853 the number will be greater rather than less.

The whole number of stations and observers available in making the deductions for 1852 was three hundred and fifty; and this number, either reporting directly to the Institution or furnishing their observations for its use, may be relied upon for the current year.

Besides the observations derived from this general system, a large collection has been procured from individuals in different parts of the country, who have kept records of the weather, in some cases for many years. This collection was obtained by issuing a circular from the Institution, requesting copies of any records which might have been kept relative to the climate of this country. The amount of information received in answer to this circular was far greater than was expected, and much more valuable matter was thus called forth than was previously known to exist.

In order that the materials procured from the aforementioned sources may be rendered available for scientific or practical purposes, it is necessary that they should be reduced, discussed, and arranged for publication. This work was commenced at the close of 1851, and has been prosecuted with considerable vigor during the past year. It was given by me in charge to Mr. Lorin Blodget, of western New York, who has engaged in the work with much ardor, has devoted to it his whole time and attention, and evinced an unusual degree of talents for investigations of this character.

The results which have thus far been obtained are of interest to the science of meteorology, and valuable to the practical arts of life. The following is a descriptive list of the deductions presented in a tabular form:

Temperature Tables.

1. Tables of general mean temperature for a series of years, embracing a summary of the annual means for the years 1849, 1850, 1851, and 1852, with a general summary of reliable observations of mean temperature on the North American continent.
2. Tables of mean temperature for each month, season, and year, for 1849, 1850, 1851, and 1852, embracing 273 stations in 1849; 284 in 1850; 300 in 1851; and 396 in 1852.

3. Tables of mean temperature at each observed hour for the same periods and the same stations.
4. Tables of the monthly extremes of temperature, with the range above and below the monthly mean, for the same periods and the same stations.
5. Collection of tables of temperature at different stations, observed for a series of years.
6. Miscellaneous tables of temperature, not conforming entirely to either of the above divisions.

The first class of tables embraces six hundred and seventy stations, distributed over the entire continent, from the West Indies and Mexico to the Polar seas.

The second class has a more limited range, and is generally confined to the United States and its territories, as observed by the military system, and that of the Smithsonian Institution, with a few stations in Canada and the British possessions on this continent.

The third class of tables is nearly the same in extent with the preceding, and for three complete years—1850, 1851, and 1852.

The fourth class is of the same extent and time.

The fifth is a climatic arrangement of tables from various stations, extending in continuous series over periods varying from five to sixty years.

Tables of Precipitation.

1. Tables of distribution of precipitation in rain and melted snow for each month, season, and year, for 1849, 1850, 1851, and 1852.
2. General tables of precipitation for a series of years, containing the results of the preceding tables, with a general summary of all reliable and accessible observations of fall of rain on the North American continent. These tables give results from about four hundred stations, principally in the United States, its Territories, and the West Indies.
3. Irregular tables and single series, extending over long periods, and where reliable observations have been made.

A series of charts has been constructed to exhibit the distribution of temperature on the North American continent, by isothermal lines; and also another series, illustrative of the distribution of precipitation for each month, season, and year of 1850, 1851, and 1852, and for the periods given in the general tables. It is proposed to present these results to Congress as a part of the annual report of the Regents, and as the first fruit of the labors of the Smithsonian Institution on the subject of meteorology.

Catalogue of Libraries.—In addition to the preparation of the work previously mentioned, Professor Jewett has continued his experiments on the new process of stereotyping, to be used in his system of cataloguing. Much difficulty and delay have been experienced in the prosecution of these experiments, on account of the want of workmen to construct the peculiar apparatus required. The services of an ingenious and skilful artisan have, however, been secured, and the process is now brought to such a state of completeness that it can be applied with certainty, and abridgment of labor, to produce the best specimens of typography.

The system of catalogues described in previous reports, though future experience may suggest other improvements, is now apparently perfect in all its details. A stereotyping office has been established in the basement of the west wing of the Smithsonian building, and the Institution is ready to commence the formation of a general catalogue of the principal libraries of the United States. The commission to which the catalogue system was referred, recommended that measures be taken to procure the preparation and printing of the catalogue of the Library of Congress. The cost of the first collection of stereotype titles can be best borne by this library, and it will be the first to reap the benefit of this invention. The stereotype blocks of the titles can be preserved in the Institution, and a new catalogue annually furnished at a small expense, with all the additions inserted in their proper places. The same titles will be employed in printing the catalogues of other libraries, and the new titles which may be prepared for these will, in turn, be used for the Library of Congress.

I beg leave to commend this subject to the immediate consideration of the Board of Regents. The whole plan is in perfect harmony with the active operations, and has always received my cordial commendation. The Institution has incurred the expense of reducing it to practice so far as it depends on mechanical arrangements, and it now only requires to be applied, to realize all the benefits which have been anticipated in regard to it, to do honor to the Institution and to confer deserved reputation on its author.*

Library.—During the last year the library has received important additions from the books presented in exchange for the volumes of the Smithsonian Contributions and other publications. The whole value of the works thus received during the year, according to the estimate of Professor Baird, is not less than from four to five thousand dollars. From this source alone a highly interesting and valuable collection of books, pertaining to all branches of positive knowledge, will, in time, be obtained. The reputation which the publications of the Institution have given it abroad, has induced individuals to present quite a number of valuable works to the library. For an account of the whole, I must refer to the report of Prof. Jewett, herewith submitted. The library has also been increased by the purchase of such books as were required in the operations of the Institution, and with a series of scientific and other periodicals.

The copyright law is still in existence, and the library has received, during the past year, the usual number of articles from this source. The remark, however, may again be made with truth, that the action of this law, as it now exists, imposes a burden on the Institution from which it should be relieved.

The whole number of articles, according to the report of Professor Jewett, now in the library, is twenty-one thousand seven hundred.

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* **Note.—Since this report was presented to the Board of Regents, Congress has approved three thousand dollars to commence the catalogue of its library on the stereotype under the direction of the Smithsonian Institution.**

Museum of Natural History.—The additions to the collection in natural history, under the persevering efforts of Professor Baird, have increased in a compound ratio over those of previous years. Large additions will also be made by the exploring expeditions which are about to leave for the different parts of this continent and distant seas, but the expense of preparing and transporting these, it is hoped will be defrayed by the general government. For a detailed account of the number and variety of the specimens collected, I must refer to Professor Baird's report accompanying this communication.

Gallery of Art.—Besides a library, a museum, and lectures, the act of Congress establishing the Smithsonian Institution directed the formation of a gallery of art. The only articles belonging to the Institution which have been yet collected, in accordance with the last-mentioned regulation of Congress, are the valuable series of engravings by the old masters, described in a previous report. One of the original propositions of the programme is that of encouraging art, by providing a suitable room for the exhibition of pictures free of expense to the artist. In accordance with this, the large room in the west wing will be devoted to this purpose. It now contains a very interesting series of portraits, mostly full-size, of one hundred and fifty-two North American Indians, with sketches of the scenery of the country they inhabit, deposited by the artist who painted them, Mr. J. M. Stanley. These portraits were all taken from life, and are accurate representations of the peculiar features of prominent individuals of forty-three different tribes, inhabiting the southwestern prairies, New Mexico, California, and Oregon. The faithfulness of the likenesses has been attested by a number of intelligent persons who have visited the gallery, and have immediately recognised among the portraits those of the individuals with whom they have been personally acquainted. The author devoted to the work of obtaining these pictures ten years of his life, and perseveringly devoted himself to his task in the face of difficulties and dangers which enthusiasm in the pursuit could alone enable him to encounter. The Institution has published a descriptive catalogue of these portraits, which are of interest to the ethnologist as representatives of the peculiar physiognomy, as well as of many of the customs, of the natives of this continent.

Lectures of the Institution.—Public lectures have become one of the characteristics of the day, and next to the press, perhaps, tend more than any other means of diffusing knowledge, to impress the public mind. The liberal price paid by the Lowell Institute, and some of the associations in our large cities, induces men of reputation to devote themselves to the preparation of popular lectures. In some parts of the country a number of adjacent cities or villages enter into an arrangement by which the same lecture may be repeated, in succession, at each place; and in this way the amount paid becomes sufficient to call forth the best talent. A plan of this kind has been adopted by the Athenæum of Richmond, Virginia, with reference to the lectures before the Smithsonian Institution, the effect of which has been mutually beneficial. Popular lectures appear better adapted to present literary and historical facts, and to give information relative to subjects of art and of morals, than to impart knowledge of scientific principles. These require more attention and continuous thought than can be generally expected from a promiscuous audience. Hence the scientific lecturer frequently aims at a brilliant display of experiments, rather than to impress the mind with general principles.

Local lectures are too limited in their influence to meet a liberal interpretation of the will of Smithson; yet they were ordered by Congress, and are calculated to do more good in this city than in any other part of the Union.

In selecting lecturers the consideration of mere popular effect has not been regarded. The persons chosen have been such as to give weight to the lecture, and to reflect credit on the Institution. The object has been to give instruction rather than amusement—to improve the public taste, rather than to elicit popular applause. The Institution, to be respected, must maintain a dignified character, and seek rather to direct public opinion than to obtain popularity by an opposite course.

The moral effect which the lectures have on the city of Washington cannot be otherwise than beneficial. When the weather will permit, the room is every evening crowded before the hour of commencement with an intelligent audience. The lecturers have generally been persons from a distance, who have expressed surprise to find such a large and respectful attendance in a city which is commonly thought to be exclusively devoted to politics and amusement. The plan of inviting gentlemen of reputation and influence from a distance renders the Smithsonian operations familiar to those best qualified to appreciate their value, and best able to give a correct account of the character of the Institution in their own districts of country, as well as to vindicate its claims to the confidence and friendly regard of the public. The results of this course, and the distribution of the volumes of Contributions to colleges and other institutions, it is hoped, will so establish the Institution in the good opinion of the intelligent and influential part of the community, that it may bid defiance to the assaults of those who are ignorant of its true character, or are disappointed in not sharing its honors without the talents or the industry to win them.

The following is a list of the titles of lectures given during the last session of Congress, with the names of the gentlemen by whom they were delivered:

A course of three lectures by Dr. E. K. Kane, U. S. N., on Arctic exploration.

A course of three lectures by President Mark Hopkins, of Williams College, on method applied to investigation.

A course of four lectures by Prof. W. B. Rogers, of the University of Virginia, on the phases of the atmosphere.

A course of twelve lectures by Dr. Benjamin Silliman, sr., of Yale College, on geology.

A course of two lectures by Prof. C. C. Felton, of Harvard University, on Greek literature.

One lecture by Job R. Tyson, esq., of Philadelphia: Queen Elizabeth and Oliver Cromwell, their characters and times, contrasted and compared.

A course of six lectures by Dr. B. A. Gould, jr., of Cambridge, on the recent progress of astronomy.

A course of six lectures by Prof. Louis Agassiz, of Cambridge, on the foundation of symmetry in the animal kingdom.

A course of six lectures by Prof. B. Silliman, jr., on the four ancient elements—earth, air, fire, and water.

Omitted from previous report: A course of twelve lectures by Dr. Henry Goadby, on the structure and functions of insects.

In the last report to the Regents, some general remarks were made relative to the library and museum, and nothing has since occurred to change the opinions then expressed; on the contrary, the experience of another year has tended to confirm these opinions, and to clearly exhibit the fact that it will be impossible to continue with the present income some of the most important operations, and rigidly adhere to the resolution of the Regents of 1847, to devote one half of the whole income to the library and museum, besides all the expenditures still required on thebuilding for the accommodation of these objects. By a reference to the annual reports of the Executive Committee, it will be seen that the general incidental expenses have continually increased from year to year, and it is evident that they must continue to increase in a geometrical ratio, on account of the greater repairs which, in time, will be required on the building. After deducting from the income the cost of repairs, lighting, and heating; of messenger, attendants, and watchmen; of stationery, transportation, and postage; after dividing the remainder by two, and deducting from the quotient the expense of the public lectures, the final sum to be devoted to the most important, and, indeed, the only legitimate object of the bequest, is exceedingly small.

The attempt has, however, been made in good faith to carry out the resolution of February, 1847; and if items which may properly be charged to the library and collections were added to this side of the account, the balance up to the present date would be in favor of the active operations. But the plan has not been found to work well in practice. The income is too small to properly support more than one system of operations, and therefore the attempt to establish and sustain three departments, with separate ends and separate interests, must lead to inharmonious action, and consequently to diminished usefulness.

However proper such a division of the income might have been in the beginning, in order to harmonize conflicting opinions, and to submit with proper caution the several proposed schemes to a judicious trial, the same considerations do not now exist for its continuance; changes have since occurred which materially alter the conditions on which the resolution was founded. The plan of active operations was not at first fully understood even by the literary men of the country. It was considered chimerical, and incapable of being continued for any length of time; and hence it was thought important to provide for the means of falling back upon a library and collections. The experience of six years has, however, established its practicability and importance, and it is now considered by the great majority of intelligent persons who have studied the subject the only direct means of realizing the intention of the donor. Again: the building was to have been finished in five years, and the income after this was to be increased by the interest on the remaining surplus fund; but the Regents have found it necessary for the better security of the library and museum to add fifty thousand dollars to the cost of the edifice; and ten years will have elapsed from the beginning, instead of five, before any income from the surplus fund will be available. This additional expense is not incurred for the active operations, and the question may be asked whether they ought to bear any part of this additional burden. Furthermore, at the time the division was made, it was thought obligatory on the part of the Institution to support the great museum of the exploring expedition; but the Regents have since concluded that it is not advisable to take charge of this collection; and Congress, by its appropriation for the enlargement of the Patent Office, concurred in the opinion expressed in the Senate by the Hon. Jefferson Davis, that it was a gift which ought not to be pressed upon the Institution. The inquiry may also, in this case, be made whether it is advisable in the present state of the funds, and the wants of the active operations, to expend any considerable portion of the income in the reproduction of a collection of objects of nature and art. Again: the active operations are procuring annually for the library, by exchange, a large number of valuable books, which, in time, of themselves will form a rare and valuable collection, and even if the division of the income is to be continued, a sum equal in amount to the price of these books ought to be charged to the library, and an equal amount credited to the active operations.

Though a large library connected with the Institution would be valuable in itself, and convenient to those who are in the immediate vicinity of the Smithsonian building, yet, as has been said before, it is not essentially necessary to the active operations. It would be of comparatively little importance to the greater number of the co-laborers of the Institution, who are found in every part of the United States, and are not confinedeven to these limits. The author of the great work on the American Algæ, now publishing in the Smithsonian Contributions, is a resident member of Trinity College, Dublin; and but few of the authors of the Smithsonian memoirs reside in Washington. The libraries, therefore, of the whole country, and in some cases of other countries, are at the service of the Institution, and employed for its purposes.

Similar remarks apply to the museum. It is not the intention of the Institution to attempt to examine and describe within the walls of its own building all the objects which may be referred to it. To accomplish this, a corps of naturalists, each learned in his own branch, would be required, at an expense which the whole income would be inadequate to meet. In the present state of knowledge, that profound attainment necessary to advance science can only be made by an individual, however gifted, but in one or two narrow lines; and hence a number of members are required to complete a single class in any of the learned academies of Europe; and therefore the plan which was once proposed, of establishing on the Smithsonian fund an academy of associated members, was entirely incompatible with the limited income of the Institution. The more feasible and far less expensive organization was adopted, of referring all scientific questions of importance, as well as objects of natural history, for investigation to persons of reputation and learning in different parts of the United States, and perhaps, in some cases, in foreign countries. By the operation of this plan, which has been found eminently practicable, the collections, as well as the libraries of the whole country, are rendered subservient to the use of the Institution.

There can be but little doubt that, in due time, ample provision will be made for a library and museum at the capital of this Union worthy of a government whose perpetuity depends upon the virtue and intelligence of the people. It is, therefore, unwise to hamper the more important objects of this Institution, by attempting to anticipate results which will be eventually produced without the expenditure of its means.

The prominent idea embraced in the Smithsonian organization, is that of coöperation and concerted action with all institutions and individuals engaged in the promotion of knowledge. Its design is not to monopolize any part of the wide fields of nature or of art, but to invite all to partake in the pleasure and honor of their cultivation. It seeks not to encroach upon ground occupied by other institutions, but to expend the funds in doing that which cannot be as well done by other means. It gives to the words of Smithson their most liberal interpretation, and "*increases and diffuses knowledge among men*" by promoting the discovery of new truths, and by disseminating these in every part of the civilized world.

Respectfully submitted,
JOSEPH HENRY,
Secretary Smithsonian Institution.

REPORT OF THE ASSISTANT SECRETARY, IN CHARGE OF THE LIBRARY.

PRESENTED JANUARY, 1853.

To the Secretary of the Smithsonian Institution:

SIR: The following table exhibits the number of books and other articles added to the library during the year 1852, with the sources from which they have been received:

	Books.	Pamphlets.	Parts.	Engravings.	Maps.	Music.	Drawings.	Other articles.	Totals
By purchase	641	918	1,568	......	......	......	......	......	3,127
By exchanges and donation	1,481	1,935	171	10	1,698	......	......	41	5,336
By copyright	476	96	26	15	10	692	9	19	1,343
Totals	2,598	2,949	1,765	25	1,708	692	9	60	9,806

The present extent of the various collections in the library is shown by the following table:

	Books.	Pamphlets.	Parts.	Engravings.	Maps.	Music.	Drawings.	Other articles.	Totals.
By purchase	3,873	957	1,568	1,335	2	......	......	......	7,735
By exchanges and donation	2,657	3,872	171	58	1,725	......	30	41	8,554
By copyright	2,304	213	26	24	51	1,826	9	86	4,539
By deposit	873	......	......	......	......	......	......	......	873
Totals	9,707	5,042	1,765	1,417	1,778	1,826	39	127	21,701

From these statements it will be seen that the library has nearly doubled in size during the year. Its greatest increase has been by exchange. The accessions from this source are nearly five times in number those of the preceding year. They may be considered but the first fruits of the system of scientific and literary exchange established and sustained by this Institution. They show, also, that the benefits derivable by the library from its connexion with the system of active operations had not been over-estimated. A considerable portion of the money expended in publications returns in the shape of books for the library. These, again, are constantly increasing the efficiency and interest of the publications.

The value of the books received by exchange cannot be estimated by their numbers, or even their nominal price. They are works of the first importance to the scientific student, and which it is very difficult to procure by purchase, even with large funds at command.

The most important of the works procured by exchange are the memoirs and proceedings of learned societies. A more particular account of these is given in the report of Professor Baird. It is seldom the case that a society which has been in operation many years, is in possession of the earlier volumes of its memoirs. On this account many of our sets are incomplete. The deficiencies can only be supplied by purchase, as opportunities may occur. Our collection of the later publications of learned societies throughout the world is by far the most extensive in this country, and we hope it will, before many years, be made complete.

Among other costly and important works which have been presented to the library during the year, the following deserve to be particularly mentioned:

Voyage autour du Monde sur la corvette la Favorite, 1830–'31–'32, in 5 vols. 8vo., with 84 maps, charts, and engravings, in folio.

Voyage autour du Monde sur la frégate la Venus, 1836–9, in 9 vols. 8vo., with four atlases, in folio, of maps and illustrations.

Voyage au Pole sud sur les corvettes L'Astrolabe et la Zélée, 1837–40, in 17 vols. 8vo., with illustrations of scenery and natural history in 85 *livraisons* folio, and a hydrographical atlas of 57 sheets.

Voyage autour du Globe de la frégate la Thétis et de la corvette L'Espérance, 1824–26, in 2 vols. 4to., with an atlas in folio.

These works published by the French government are superbly printed and illustrated, and are of great scientific value. They were presented by the "Ministère de la Marine," in exchange for our own publications sent to the library of that department.

Gay's *Historia fisica y politica de Chile*, in 14 vols. 8vo. and 1 vol. folio of plates, an elegant work of great value, has been presented by the government of Chili, through Lieutenant J. M. Gilliss.

A donation from the Honorable East India Company, in 29 volumes, mostly in quarto, comprises grammars and dictionaries of the Mahratta, Malayalim, Burmese, Murathee, Teloogoo, Carnataca, Bengale, Sanskrit, and Hindustani languages, besides other works of great interest to the philological student.

The Board of Admiralty of the British government have presented to the Institution 1,574 of the charts, plans, and views published by order of the Lords Commissioners. This is believed to be the largest collection of them in America, and may truly be considered a munificent gift.

From several of the States of the Union we have received series of public documents, particularly from New York and Massachusetts. Nor have we been forgotten by the most distant members of the Confederacy—California, Florida, and Minnesota—to which the publications of the Institution were previously sent. Besides donations from governments and from public societies, we have received from individuals many costly and valuable gifts.

To Mr. Henry Stevens and Dr. J. G. Flügel, our agents in London and Leipsic, we are indebted for a large number of books and pamphlets, presented by themselves, or by others at their instance. Among Mr. Stevens's donations are nearly one thousand pamphlets, most of them formerly belonging to Mr. Petty Vaughn, of London. Many of these relate to American affairs, and are curious, rare, and important.

Messrs. Meissner & Richter have presented, through Dr. Flügel, a copy of Gailhabaud's *Denkmäler der Baukunst*, in 4 volumes 4to., a costly and copiously illustrated work. The publishers of Pierer's *Universal Lexicon* have, at the suggestion of Dr. Flügel, sent to us a copy of the new edition, in 20 volumes 8vo. It is a sufficient evidence of the merit of this work, that within six years from the completion of the first edition it has passed through three editions in Germany. It meets, better than any other work, the idea of a Universal Lexicon, to which one may resort for concise and accurate accounts of every subject in which he may be interested. Encyclopædias have been mostly devoted to elaborate treatises, rather than to brief explanations, furnishing ready answers to the thousand questions which arise in daily reading and study.

The largest and most important of the gifts which we have received from individuals is that from James Orchard Halliwell, esq., the distinguished archæologist. This gentleman has presented to the Institution an extremely curious, interesting, and instructive collection of MS. bills, accounts, inventories, legal instruments, and other business papers, extending from 1632 to 1792, neatly arranged and handsomely bound in 54 volumes, mostly of folio size. This collection may justly be said to be unique of its kind. It is of interest not only to the antiquary and the collector of curious relics of olden times, but as an authentic record of prices for more than 160 years it is of great value. As a picture of the mode of life and domestic habits and expenses of English families of former generations it is a most instructive record. Its character cannot be better described than in the elegant letter of presentation:

AVENUE LODGE, BRIXTON HILLS, NEAR LONDON,
28th October, 1852.

SIR: I have the pleasure of offering for your acceptance, for the use of the Smithsonian Institution, a collection of documents formed for the purpose of illustrating the history of prices between the years 1650 and 1750. The collection, regarded as a collection, is, I believe, unique in its kind, although many manuscripts of the same description are to be found dispersed amongst the vast stores of the British Museum and other libraries in this country. It consists of about seven thousand original papers, bound in fifty-four volumes, including bills, accounts, and inventories, respecting commercial and domestic articles of nearly every description.

It will afford me very great pleasure if the allocation of these papers at Washington prove of use at any time to the literary inquirers of your great nation. Without incurring the imputation of falling into the ordinary error made by collectors, in attaching a fictitious value to relics which have necessarily required the expenditure of considerable time and exertion to bring together, it may, perhaps, be allowed me to entertain a hope that these fragments of an earlier age, now confided to your care, may be hereafter regarded of importance in the list of materials which will some day assist in producing a history of social progress.

Mr. Henry Stevens, F. S. A., the agent to the Smithsonian Institution in England, has kindly undertaken to forward the collection to you on an early opportunity.

I feel sure you will excuse the liberty I am taking in addressing you on this subject; and I have the honor to be, sir,

Your obedient, faithful servant,
J. O. HALLIWELL.*

Prof. JOSEPH HENRY,
Secretary of the Smithsonian Institution, Washington.

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* Since the above account was written, we have received from the munificent donor of this collection a quarto volume of one hundred and twenty pages, beautifully printed on drawing paper, with the following title:

"Some account of a collection of several thousand bills, accounts, and inventories, illustrating the history of prices between the years 1650 and 1750. Presented to the Smithsonian Institution, Washington, by James Orchard Halliwell, esq., F. R. S., Hon. M. R. I. A., Hon. M. R. S. L., F. S. A., etc., Brixton Hill; printed for private circulation only: 1852."

This work was printed at Mr. Halliwell's expense, and is of itself a volume of great value and interest. Forever honored be such liberality!

The preface to this volume we quote entire:

PREFACE.

The unique collection of commercial and domestic statistical documents—a very brief notice of which, accompanied by a few extracts to exhibit their general character, will be found in the following pages—was formed years ago with the view of assisting in the compilation of a projected work on the history of prices. That design has now been abandoned; but the anxiety of the collector that the records thus brought together should be preserved in a permanent library for the use of future inquirers, has resulted in the presentation of them to the people of the United States, who, beyond all others, are most likely to produce a writer on the history of commerce willing to make use of materials which will strikingly illustrate the immense commercial progress the world has achieved during two centuries.

The collection includes about seven thousand separate documents, bound in fifty-four volumes, in the following order:

Vols. I to XXIX.—A collection of several thousand bills, accounts, and inventories, commencing with the year 1632, but chiefly relating to the period between the years 1660 and 1750. There are included amongst them, a considerable number of the autograph private account-books, written on small leaves in a minute hand, of Sir John Newton, Bart., of Barr's Court, Co. Gloucester. In the twenty-ninth volume are a few documents of a later date. 4to.

Vols. XXX to XXXII.—Three volumes containing undated documents, including a large proportion of early and curious tradesmen's bills. 4to.

Vol. XXXIII.—Account-book of J. Heywood, commencing December 24, 1694. Narrow folio.

Vol. XXXIV.—"The accounts of the Honorable John Archer, esq., from the laste ajusting of the Essex book for Coopersale, being June the 30th, 1703." Some of these accounts are very copious. Fol.

Vol. XXXV.—A household account-book of the Archer family, 1709 to 1711. Small 4to.

Vol. XXXVI.—Account-book of a person of the name of Pelham, commencing in 1707 and extending to 1716. 4to.

Vol. XXXVII.—"Robert Garlicke's account in Benham farme," commencing September 29, 1738. Fol.

Vol. XXXVIII.—A volume lettered "Estates of the Bacon family," but including various inventories. Fol.

The number of articles received under the copyright law is somewhat larger for the last than for the preceding year. It has increased from year to year since the organization of the institution, although no special efforts have been made to induce publishers to comply with the law. Every book which has been received has been immediately and carefully recorded, and a certificate of deposit sent generally by return of mail to the depositor. The same care has been exercised for the most insignificant as for the most important; and has been dictated by a sense of justice to the publishers, inasmuch as the deposit was supposed to be essential to the perfection of their title. Had the articles thus sent been regarded merely as donations to the library, many of them might have been differently treated. Loose sheets of music, school-books, and many "cheap publications," might merely have been placed together in some spot where they would long have remained undisturbed. For themselves, and as parts of an imperfect collection, they were hardly worth recording. It should be particularly observed that any article, however apparently worthless, acquires value and importance as an integral part of a complete collection. A collection of all the productions of the American press would, if perfect and entire, teach lessons which could not be gleaned from its parts.

It would show the *extent* of the literary labors of the time.

Vol. XXXIX.—*Accounts for laboring work done for Sir John Webb at Adsocke.* 1686. Fol.

Vol. XL.—"A cash booke for moneys received and paid for my master, William Archer, esq., per George Barton. 1707." Fol.

Vol. XLI.—An account-book of the Archer family, commencing in the year 1691. Narrow fol.

Vol. XLII.—The account-book of Thomas Brook of Cold Hall, Co. Suffolk. 1713. Fol.

Vol. XLIII.—"The accounts of my charge and all receipts for rents and other concerns for my master, the Hon. Sir John Newton, Bart., from and since the 11th of June, 1716, by me, John Richardson." Fol.

Vol. XLIV.—"The accounts of the Honoured Squire Archer, from my first goeing downe into Suffolke, June the 13th, 1692, to looke after those concerns for your worship." Fol.

Vol. XLV.—Household account-book. 1715. 4to.

Vol. XLVI.—A small account-book of Sir John Newton, commencing October, 1699. 4to.

Vol. XLVII.—Account-book of the Rev. H. Arlington. 4to.

Vol. XLVIII.—Account-book of John French. 1653.

Vol. XLIX.—Wright's account-book, 1676. Thin 4to.

Vol. L.—Mr. Poole's account-book from 1675 to 1679. Fol. This volume contains some curious entries.

Vol. LI.—Private account-book of Sir John Newton, commencing in March, 1719-20. 12mo.

Vol. LII.—Memorandum-book of expenses of Antony Fowle, esq., of Goudhurst, Co. Kent, a justice of the peace, 1671, written in a copy of Lilly's Ephemeris for that year. 12mo.

Vol. LIII.—A book of the accounts of the Hon. Lady Archer, from 1683 to 1689. Fol.

Vol. LIV.—The Easter-book of Campsall, Co. York, commencing in the year 1576. Small fol. This is of an earlier period than it was proposed to illustrate by this collection, but it is admitted as a specimen of more ancient accounts.

There is scarcely a branch of trade, an article of manufacture, or a produce of agriculture, the history of which is not illustrated by these papers. They are often brief; but a close examination can scarcely fail of discovering minute traces of past times in particulars for which it would be vain to search elsewhere. To say more might exaggerate the importance of the collection; to say less would be to conceal its value, which, to some extent, may be said to consist chiefly in the circumstance that the information it contains could not be yielded by the treasures of any library in the world, with the exception of those in the British Museum.

Avenue Lodge, Brixton Hill, near London, 28th October, 1852.

It would show the proportionate attention to the various departments of learning.

It would show, from year to year, the increase or decrease of interest in particular pursuits.

It would show the comparative literary fertility and wealth of different portions of the country.

It would show the progressive improvements in the subsidiary arts of paper-making, binding, engraving, and so forth.

All these points possess interest to different classes of inquirers. The wants of all literary investigators should be respected, and, as far as possible, supplied. The historian is not less to be provided for than the philosopher, the artist than the statesman. If we had the means, therefore, of forming a complete collection of copyright works, we would reject nothing, not even that which might to ourselves appear utterly trivial and unworthy of preservation; for the article which one would reject, might, in coming times, for some reason which could not possibly have been foreseen, possess more interest than any other in the collection.

It is impossible for any man to judge competently of the wants of future generations. It is unsafe to intrust to any one the power of rejecting works as worthless. Many enlightened contemporaries of Milton and Newton would have rejected, as worthless, the Paradise Lost and the Principia. Sir Thomas Bodley, the founder of the great library which bears his name—a contemporary of Shakspeare—insisted, contrary to the advice of his librarian, Dr. James, in excluding plays and almanacs, and most pamphlets, which he was accustomed to call "riff-raff" and "baggage-books." The Bodleian Library is now paying very high prices for those books which then might have been procured almost without cost.

It is stated that one of the libraries in England, to which books were sent by copyright, and which was allowed to select such as were worthy to be retained, rejected, in a single year, The Antiquary; Mrs. Opie's novels; one of Wordsworth's odes, and his letter to a friend of Burns; Cobbett's publications; Jameson on Minerals, (second edition,) and the Edinburg Medical and Surgical Journal; The Siege of Corinth, and Shelley's Alastor; Lord Brougham's Speech on Agricultural Distress, and McCulloch's Essay on the National Debt; Comparative Tables of Commercial Weights; Beethoven's Musical Compositions, and many other similar works. (See "Copy of a Representation from the Trustees of the British Museum to the Treasury," March 27, 1846, page 35.)

There ought, therefore, to be in every country one complete collection of everything published—one library, where everything printed should be garnered up, and treated as of some importance; for, although in the multitude of libraries everything may be preserved somewhere, yet, from being scattered about, and from there being no one place where the student would be *sure* of finding all that he might seek, many books would be practically lost.

The investigator of the last half century of American history is now obliged to travel the country through to collect books and papers for his work. Suppose that everything published in the country for the altogether chimerical. The advantages which would result from such an interchange would be immense. The literary and scientific labors of each country would be known in their full extent, and almost simultaneously in all other countries. Would not science advance more rapidly? Would not better justice be done to American genius?

Nothing, it seems to me, could more effectually conduce to the rapid progress of science and humanity, than a system which should make the literary and scientific labors in each country known immediately in all others.

The books gathered would, it is true, be in but one library; but books in a large public library, though chained to the shelves, are not to be shut out from the world. They contain ideas, which entering the minds of those who have access to them, there fructify, and the fruit is scattered far and wide. Books, it is true, are silent and motionless: they seem to produce no results. But within them is the spring of all progress, the spirit which stimulates and sustains all the activity that the world of letters, of science, of politics, and of religion, manifests.

The number of books *purchased* during the last year is very small. The money was especially desired for the successful completion of enterprises undertaken by the department of active operations. Besides this, the rooms temporarily occupied as a place of deposit for books were, even at the beginning of the year, filled nearly to the capacity of the shelves erected, and it was thought best not to incur further expense for arrangements which could not be of permanent utility.

The selection of books for purchase has been uniformly of such as were immediately needed, not of such as might be more remotely useful. It would have been preposterous to attempt with our means the immediate formation of a universal library; though we have not ceased to cherish the hope and belief that a great library of reference and research will ultimately be gathered here.

Our expectations for the library are not limited by our immediate means of purchasing books. The history of other libraries in this country shows that any permanent and well located institution of the kind may reasonably expect accessions by donation and bequest, in proportion to the importance of its position. The more conspicuous, central, and permanent the establishment, the more likely it is to attract the liberal notice of those who have valuable collections to bestow.

The location of the Smithsonian Institution at Washington, its permanent endowment, its independence of partisan and sectarian influences, the high position in the scientific world which it has already achieved by its active operations, the results of the system of exchanges of which we are now enjoying but the first fruits, together with the various means which have been adopted or suggested for aiding other libraries and advancing bibliographical objects, conspire to give prominence to the library of this Institution; and they will, before many years, render it, if not the largest and most important in the country, at least a very valuable auxiliary to our national literary progress. We expect, however, that it will increase mostly by exchanges and gifts. We may justly hope that many valuable private collections of books in particular departments of learning will be placed here, to remain as the best monument that can be reared to commemorate the learning and taste as well as the liberality of their collectors.

It is not the love of acquisition or pride of possession which leads us to desire such gifts. It certainly is not the wish to withdraw them from other institutions. It is the belief that a large library of reference is likely to be formed here, and to be more generally useful here than if placed in any other city. There is no city in the Union more attractive to men of science and letters than Washington. This is principally owing to the fact that so many of the most intellectual men of the nation are gathered here, occupying its high places of trust and honor, and that here are discussed, by statesmen and orators, questions of deepest interest to liberty and civilization. The attractiveness of Washington is enhanced by its genial climate, which will undoubtedly render it more and more a favorite resort. This Institution, from its location, its connexion with the government, and its own organization and operations, possesses opportunities for collecting certain classes of books, which are of great importance in a library of reference, superior to those of any other library except that of Congress. I refer to memoirs and transactions of learned societies, publications of educational establishments, documents of the general and State governments, and of foreign governments, besides many pamphlets and books, principally of local character, published in all parts of the land.

We do not suppose that here, or anywhere, for many years to come, will be formed that complete treasury of the materials for literary pursuits which is the *beau-ideal* of the bibliographer; but we may, nevertheless, do all that we can (without prejudice to other interests) in the direction of this desirable end.

It is proper to remark, in this connexion, that the chief expense of a library is not in the permanent custody of it when once rightly ordered. It is in the care of accessions, and the establishment of them as parts of the collection. Every book which comes into a library must be subjected to the following processes: It must be collated, to see that it is perfect; stamped, so that it can be identified; recorded in the book which constitutes the inventory of property; located upon the shelf, and have its location marked upon it; entered in the local catalogue, which shows the books upon each shelf, and enables the librarian to discover the title of any one that may have occupied a spot now vacant. It must also be catalogued and indexed: perhaps its receipt must be acknowledged to the donor; and it may require to be marked for binding. It is this work upon all accessions, which is repeated for every pamphlet and every article—the work of organizing a library, together with that of selecting books and directing purchases—which constitutes the appropriate work of the librarian.

This work once well done, the library, if it is to remain stationary, may pass from the hands of the librarian or collector and organizer, to those of the mere custodian or guard, who protects the books from depredation and injury, and answers the calls of those who consult them. These are inexpensive labors. One man of common intelligence in a library thus perfectly organized, and receiving no accessions, would be sufficient to take charge of a hundred thousand volumes or more, and serve a large number of readers.

I dwell upon this point, because I think it is not generally understood that the chief expense of a library is in its organization, rather than in its permanent custody. The two things should always be kept distinct. A system for rightly ordering a library should be early formed and steadily adhered to. Sufficient aid of the right kind should be furnished to the librarian, to enable him to incorporate accessions at once among the other portions of the collection; to catalogue them, and render them in the highest degree useful. A collection of books is not all that constitutes a library, any more than a collection of men is of necessity an army. The men must be organized for warlike operations to compose an army; so books, to form a library, must be arranged for purposes of study and reference.

The necessity of the proper management of a library is, however, better appreciated than the labor which it requires.

In nearly all the large libraries of Europe (that of the University of Gottingen is perhaps the only exception) the librarians have not been furnished with the necessary aid to properly dispose of accessions as they were received. The consequence is, that the work of organizing has remained unaccomplished, and that the librarians have been turned into mere custodians, from the impossibility of committing to servants what would otherwise be their work. The books were not so placed that they could be found and kept by mere servitors. The memory and learning of the librarian is in incessant demand from the want of printed guides, which ought to have been provided. Thus arrears have gone on accumulating, and the expenses of the collections have constantly increased.

The view which we take of the necessity of large collections of books leads us to express the gratification which we feel at the large appropriations made this year by Congress for replenishing the desolated shelves of its library. Should this liberality be continued, it will be providing with great rapidity for many of the wants which it has been our purpose to signalize. We doubt whether any appropriation made by Congress has been hailed with more intelligent pleasure. It revived the hopes of the studious throughout the country, and led to the belief that the hands which had begun this good work would carry it on to perfection. With an overflowing treasury, the possession of an enlightened and appreciative nation, we may well hope that money will not be wanting to establish the independence of American learning, to render it no longer provincial, no longer relying for its support upon the libraries of Europe.

Another movement in the same direction, suddenly assuming a position of commanding importance, is the establishment of the Astor Library of New York. It was endowed by a business man, who had the sagacity to place it under the management of one who had made the selection, purchase, and care of libraries a professional study for many years. In the history of similar collections there is nothing to compare or compete with the gathering of the Astor Library in New York.

It was established in 1849. The appropriations for the purchase of books have been placed entirely at the disposal of Dr. Joseph G. Cogswell, the librarian. He has collected, during two visits to Europe, nearly 60,000 volumes, with about $63,000 dollars. But this is not all: these volumes were not taken at random; they were bought from a list previously prepared, without regard to cost. The collection may, for practical utility and adaptation to its purposes, for just distribution among all the departments of learning, for choice of editions, and material perfection of copy and binding, challenge comparison with any of its size in the world.

During the year, I have prepared a work containing an exposition of the system for constructing catalogues of libraries, and a general catalogue, by means of separate stereotype titles, with rules for the guidance of librarians, and examples illustrating the rules. This work, although not large, cost me considerable time and labor.

It was stereotyped in our own office, by the new process, which we have done so much to perfect and adapt to our own peculiar purposes. The typographical appearance of the book is very satisfactory, although the work was executed by unskilful hands, and under many unfavorable circumstances. In our operations of stereotyping we have experienced many delays and difficulties, from the fact that there was no stereotype office or type foundry at hand, and no persons accustomed to the processes of stereotyping, or the manufacture of the delicate apparatus required. We have lately, however, secured the services of an accomplished mechanic, who has already made great improvements in our processes and apparatus, and has acquired much skill in the new art.

A series of bibliographical works has been projected and commenced by the Institution, intended gradually to form a library of valuable aids to research in particular departments of knowledge. The facilities afforded for the prosecution of this plan by the stereotyping of the titles separately, so that each part may first be printed by itself, and afterwards, without loss of the previous labor and cost of printing, be continued to form the complete work, would alone justify the labor and expense of establishing an office for stereotyping. The work already executed, or in progress, will furnish a ready test of the practicability and efficiency of the mode of stereotyping which we have employed.

Other works of a similar character are now in preparation; among them the bibliography of education, which we hope may be finished during the year 1853. The record of periodical publications is now nearly finished. The catalogue of bibliographical works in the library will shortly be put to press. These works may be prepared and printed without interfering with the progress of other work upon the catalogue of our own or of other libraries.

Our stereotype office is now in operation, and we can execute work with a good degree of rapidity. The plan is now offered to the public. It has already been fully stated that the expense of publishing the first large catalogue will be greater than of those that follow, although this expense will subsequently be repaid to the first library in the diminution of the expense of reprinting its catalogue. The commission upon the catalogue system recommended to the Board of Regents to take measures to procure the printing of the catalogue of the library of Congress. The reasons for this recommendation were, that this library would

[illegible]

REPORT OF THE ASSISTANT SECRETARY, IN CHARGE OF THE MUSEUM, &c.

To JOSEPH HENRY, LL. D.,
Secretary of the Smithsonian Institution:

SIR: In obedience to your requirement, I have the honor herewith to present a report upon the following branches of operations given into my charge.

I.—PUBLICATIONS.

In no previous year have the publications of the Institution been so numerous and varied as in the one just passed. In addition to two quarto volumes of Smithsonian Contributions to Knowledge, a considerable number of octavo works and miscellaneous matter have been issued.

The following list contains an enumeration of the separate articles in volume III, Smithsonian Contributions to Knowledge, the whole making a volume of 564 quarto pages, and 35 plates. With the exception of Nos. 3, 8, and 9, all were issued during 1852.

List of Memoirs in volume III, Smithsonian Contributions.

1. Observations on Terrestrial Magnetism. By John Locke, M. D., M. A. P. S.; pp. 30.
2. Researches on Electrical Rheometry. By A. Secchi; pp. 60, and three plates.
3. Contributions to the Natural History of the Fresh Water Fishes of North America. By Charles Girard—I. A Monograph of the Cottoids; pp. 80, and three plates.
4. Nereis Boreali-Americana, or Contributions to a History of the Marine Algæ of North America. By William Henry Harvey, M. D., M. R. I. A.; Part I, Melanospermeæ; pp. 152, and twelve plates.
5. Plantæ Wrightianæ Texano-Neo-Mexicanæ. By Dr. Asa Gray, M. D.; Part I; pp. 146, and ten plates.
6. The Law of Deposit of the Flood Tide; its Dynamical Action and Office. By Charles Henry Davis, Lieut. U. S. Navy; pp. 14.
7. Description of Ancient Works in Ohio. By Charles Whittlesey; pp. 20, and seven plates.
8. Occultations visible in the United States during the year 1852. Computed by John Downes, esq.; pp. 34.
9. Ephemeris of Neptune for the year 1852. By Sears C. Walker, esq.; pp. 10.

The fourth volume, also issued and distributed in 1852, consists of a single work, viz: Grammar and Dictionary of the Dacota Language. Edited by the Rev. S. R. Riggs; pp. 416.

Several Memoirs, intended for the 5th and 6th volumes, are in press, as follows:

Memoir on the Fossil American Ox. By Dr. Joseph Leidy.
Plantæ Wrightianæ, Part II. By Dr. Asa Gray.
North American Algæ, Part II. By Dr. Harvey.
Plantæ Fremontianæ. By Dr. John Torrey.

In addition to these, the following are ready to go to press:

Nervous Anatomy of *Rana Pipiens.* By Dr. J. Wyman.
Winds of the Northern Hemisphere. By Prof. J. H. Coffin.
A Fauna and Flora of Animals. By Dr. J. Leidy.
Fossil Vertebrata of Nebraska. By Dr. Leidy.

Nearly all the illustrations of these have been completed, and are ready for binding with the text, whenever ready.

Of octavo works, the following have appeared:

1. The Sixth Annual Report of the Board of Regents of the Smithsonian Institution; pp. 100.
2. Directions for Making Collections in Natural History; pp. 24.
3. On the Construction of Catalogues of Libraries and of a General Catalogue. By Prof. C. C. Jewett; pp. 78.
4. Meteorological and other Tables. By Prof. A. Guyot; pp. 176.
5. Catalogue of Paintings in the Stanley Gallery; pp. 76.

Making a total of 980 pages quarto and 514 octavo.

There are now in press—

1. Catalogue of Serpents in the Museum of the Smithsonian Institution.
2. Bibliography of American Natural History for 1852.

A second edition of the Report on Recent Improvements in the Chemical Arts, has been called for by the public and distributed.

In addition to the above, a large number of circulars, calling for or communicating information on a great variety of subjects, has been issued.

II.—DISTRIBUTION OF PUBLICATIONS AND EXCHANGES.

(*a.*)—FOREIGN DISTRIBUTION.

The experience of the year 1852 has given gratifying evidence of the efficiency of the system of foreign exchanges now followed by the Smithsonian Institution. The receipts for the year will be found to have increased nearly eight-fold over those of 1851. The undertaking on the part of the Smithsonian Institution to receive parcels from the various societies in the United States, and distribute them to its agents in Europe, and to receive their foreign exchanges in return, has been found productive of the happiest results. The scientific relations between the two worlds have been very much strengthened in this way, and a correspondence established of the greatest importance to all parties. It may safely be estimated that at least three-fourths of the scientific exchanges of this country and of Europe now pass through the Smithsonian Institution. The expense, which is borne by the Institution, though considerable, is trifling in proportion to the good accomplished in the diffusion of knowledge. The more minute statistics of this branch of exchanges will be given in the tables below.

In addition to the publications of societies, numerous copies of several valuable works have been given by individuals to the Institution for distribution. In many cases it has been left to the Institution to select the foreign recipients of presents both from societies and individuals.

The amount of matter to be sent to Europe was very large. The publications of the Institution, consisting of two quarto volumes and a number of octavos, were double, in number, those of the last year. The Senate ordered three hundred copies of Foster and Whitney's report on Lake Superior, one hundred of Captain Stansbury's report of the Exploration of Utah, and one hundred of Dr. Owen's report of the geology of Iowa, Wisconsin, and Minnesota. The kindness of Mr. R. P. Anderson, superintendent of the document-room, and of Mr. Dooley, superintendent of the folding-room of the Senate, put the Institution in possession of a large number of public documents of scientific interest. The Indian Bureau sent one hundred and seventy-eight volumes of the History of the Indian Tribes; and the institutions of the country generally forwarded large numbers of their Transactions. The labor of arranging the details of the transmission was of course very great, the titles being first entered in the order of reception, then posted up in a ledger, in which a debit and credit account is kept with each correspondent, and a minute invoice of the entries made out and a copy sent by mail. Precisely the same system is adopted in regard to the parcels received from Europe, being first entered in a day-book, then posted up in a ledger, and finally transcribed a third time in the letter of acknowledgment. Parcels for other institutions are likewise entered in a special book, and a memorandum kept of the date and mode of transmission.

In the present case the number of letters with invoices, prepared and sent, amounted nearly to six hundred, many of them containing upwards of fifty titles.

The making up of the parcels occupied about a week, and the entire foreign transmission left the Smithsonian Institution by the 21st of June. The cases, as before, were sent to Dr. J. G. Flügel, of Leipsic, to H. Bossange, Paris, and to Henry Stevens, of London, all of whom evinced the greatest energy and promptness in their distribution. This distribution has been nearly completed, so that every foreign mail brings warm acknowledgments of the liberality of the Institution. Notices of this transmission have appeared in many of the foreign journals, and much admiration expressed of the extent and completeness with which the institution is fulfilling its great mission.

The following table presents the statistics of the sending of June, 1852. The names of the institutions themselves will be found in the list given in the appendix. To some of these the full series of publications are not sent, but only works on special subjects. The total number, as will be seen, is 300, of which 207 receive the Smithsonian Contributions in full.

A.—TABLE EXHIBITING THE AMOUNT OF PRINTED MATTER SENT ABROAD IN 1852 BY THE SMITHSONIAN INSTITUTION.

1. *Distributed by Dr. J. G. Flügel, Leipsic.*

Countries.	Institutions.	Individuals.	Total of addresses.	Packages to institutions.	Packages to individuals.	Total of packages.
Sweden	6	....	....	14	....	....
Norway	4	....	....	7	....	....
Iceland	1	....	....	1	....	....
Denmark	4	....	....	8	....	....
Russia	11	....	....	16	....	....
Holland	11	....	....	19	....	....
Germany	67	....	....	133	....	....
Belgium	8	....	....	15	....	....
Switzerland	10	....	....	19	....	....
Batavia	1	....	....	2	....	....
Total	123	24	147	234	37	271

2. *Distributed by Hector Bossange, Paris.*

Countries.	Institutions.	Individuals.	Total of addresses.	Packages to institutions.	Packages to individuals.	Total of packages.
France	54	....	....	70	....	....
Italy	25	....	....	29	....	....
Total	79	10	89	99	10	109

3. *Distributed through the Royal Society and the agency of Henry Stevens, London.*

Countries.	Institutions.	Individuals.	Total of addresses.	Packages to institutions.	Packages to individuals.	Total of packages.
Portugal	1	....	....	2	....	....
Spain	4	....	....	5	....	....
Great Britain	60	....	....	113	....	....
Total	65	28	93	120	34	154

4. *Miscellaneous Distribution.*

Countries.	Institutions.	Individuals.	Total of addresses.	Packages to institutions.	Packages to individuals.	Total of packages.
Greece, Turkey, Asia, and Africa	17	....	....	19	....	....
Mexico and South America	16	....	....	19	....	....
Total	33	....	33	38	....	38

5. *General Summary.*

Agents.	Total of addresses.	Total of packages.	Letters accompanying packages.	Number of boxes.	Capacity in cubic feet.	Weight in pounds.
Dr. J. G. Flügel	147	271	214	25	125	4,250
H. Bossange	89	109	112	9	45	1,530
H. Stevens	93	154	97	8	73	2,445
Miscellaneous	33	38	33	4	20	660
Total	362	572	456	46	263	9,885

6. *Total of Volumes sent.*

Presents from the Smithsonian Institution	5,756
Presents from others	3,439
Total	9,195

Many of the above-mentioned parcels contained packages for institutions or individuals not in direct correspondence with the Smithsonian Institution. As a letter of advice was sent to each of these, the difference between the number of addresses in the above tables, and the number of letters sent, expresses the number of such packages, viz:

Number of letters sent	456
Number of Smithsonian addresses	362
Difference expressing the included parcels	94
Which added to	572
Gives as the total of packages made up, and sent to 456 addresses,	666

B.—TABLE EXHIBITING THE AMOUNT OF MATTER RECEIVED FROM THE DIFFERENT INSTITUTIONS IN THE UNITED STATES IN 1852 FOR DISTRIBUTION ABROAD.

Obtained by the Smithsonian Institution from various sources, but exclusive of its own publications		3,958 vols.
Received from other sources, as follows:		
Boston Society of Natural History	34	
Dr. John C. Warren	100	
American Oriental Society	33	
Academy of Natural Sciences	492	
American Philosophical Society	68	
National Observatory	1,108	
Superintendent of Indian Affairs	178	
Coast Survey	222	
Topographical Bureau	21	
Commissioner of Patents	627	
Postmaster General	32	
Census Office	100	
Light-House Board	68	
Surgeon General	149	
Georgetown College	60	
American Journal of Science	50	
Ohio Board of Agriculture	51	
Presbyterian Board of Education	50	
Miscellaneous, including individuals	745	
		4,188 vols.
Total received		8,146 "

The actual number of volumes and titles is considerably greater than the above, as of the 4,188 quoted as from other sources, 351 consisted of packages, each containing several volumes. This would make the sum total amount nearly to 9,000 volumes.

Such volumes as were received subsequent to the 21st of June are still on hand, amounting to about 1,650. These would have been sent off early in the past autumn but for the desire to include with them the sixth Report of the Smithsonian Institution, the Report of the Superintendent of the Coast Survey, and of the Commissioner of Patents for 1851, the final Report on the Geology of Iowa, Minnesota, and Wisconsin, and some others. It is confidently expected that all will be despatched early in January, to prepare the way for the large transmission in June.

In table C will be found an exhibit of the receipts of the Smithsonian Institution from abroad in 1852. For convenience of comparison, I have added the returns for 1851, and prior dates.

C.—Table exhibiting the receipts by exchange in 1852, and including those of previous years.

Years.	Volumes.			Parts of vols. and pamphlets.			Maps and engrav's.	Total.
	Folio and quarto.	Octavo.	Total.	Folio and quarto.	Octavo.	Total.		
1852	449	689	1,138	495	1,414	1,909	1,698	4,745
1851	96	171	267	118	224	342	....	609
1850 and prior	132	138	270	....	....	608	....	878
Total	677	998	1,675	613	1,638	2,859	1,698	6,232

It will be seen from the above table that the total receipts for 1852 have been three times as great as during all previous years. The number of extended series of Transactions, and other desirable works, has been in unusual proportion. Among these I can only mention a few: as 30 volumes, 8vo., of Transactions and Reports from the Academy of Sciences, Stockholm; 21 volumes, 4to., of Transactions of the Danish Society of Sciences, Copenhagen; 23 volumes, 8vo., of Memoirs of the Academie Nationale of Metz; 26 volumes, 8vo., of the Transactions of the Society of Agriculture, &c., of Lyons; 17 volumes 8vo., and 1 folio, of Gay's History of Chili, from the Chilian government; 25 volumes, 4to., of Philological works, published by the East India Company; 29 volumes, 4to., of Transactions of the Batavian Society of Experimental Philosophy; 20 volumes, 4to., of Transactions of the Royal Society of Edinburg; 1,574 charts from the London Admiralty; 22 quarto and 25 octavo volumes of Transactions of the Utrecht Society of Arts and Sciences; 31 volumes 8vo., and many folio, belonging to the Voyages of the Astrolabe et Zélée, Venus, Thetis et Esperance, &c., presented by the Ministere de la Marine of France; 16 volumes, 4to., from the Royal College of Surgeons, of London; 54 volumes, 4to., of Manuscripts from J. O. Halliwell, of London; 14 volumes, 4to., from the Academy of Sciences, Bologna; with very many others. Almost every parcel from a foreign society contains donations from prominent members, of works, many of them often very costly. In fact, the books received in 1852 could scarcely have been purchased for less than four or five thousand dollars.

The following table exhibits the number of parcels, many of them including several volumes, which have been received in 1852 for other institutions in the United States.

D.—Table of packages received in 1852 for other institutions.

Boston.—American Academy of Arts and Sciences	24
Natural History Society	10

Cambridge.	—Observatory	14
	Astronomical Journal	29
New Haven.	—Journal of Science	20
	American Oriental Society	5
New York.	—New York Lyceum of Natural History	10
	Ethnological Society	11
Albany.	—New York State Library	4
Philadelphia.	—American Philosophical Society	39
	Academy of Natural Sciences	13
	Franklin Institute	7
Washington.	—National Observatory	41
	Coast Survey	32
	National Institute	19
	Congress Library	6
	State Department	4
	Astronomical Expedition to Chili	14
Georgetown.	—College	7
Cincinnati.	—Observatory	10
Miscellaneous institutions		123
Individuals		195
	Total of packages	637

It is much to be hoped that Congress may make some systematic and permanent arrangement for distributing a complete series of its works to European libraries, to at least thirty of which they might be judiciously supplied. It would also be desirable that of particular works of scientific interest, as reports of Patents, Coast Survey, explorations in geography and geology, and others of a similar character, a larger number might be assigned, of from one hundred to three hundred, as has already been done in some instances by the Senate. These might be distributed by the Smithsonian Institution at moderate cost to government, and direct returns or exchanges obtained for the library of Congress if desired.

The distribution of Congressional documents in the United States also might be considerably modified. At present the copies given to the State Department for domestic distribution can only be sent to colleges or lyceums, not to regular public libraries, even of the largest class. The rules in force with the Smithsonian Institution might well be applied in the present case, of making as equable a distribution as possible throughout the country, supplying all large public libraries, and giving to smaller ones where a large district would otherwise be destitute. It is also a matter of complaint with men having special objects of research that public documents relating to their investigations are not assigned to them. This might be remedied by directing some department to keep full lists of persons in the various walks of science, and to supply the names on such lists regularly with extra copies of documents to be furnished by Congress. How far it would be convenient or proper for the Smithsonian Institution to undertake this labor, and under what conditions, is for you to say.

(*b.*)—DOMESTIC DISTRIBUTION AND EXCHANGES.

Owing to various unforeseen and vexatious delays, the copies of the Smithsonian volumes for domestic distribution could not be sent off before October. They have, however, all been distributed, and acknowledgments for nearly the entire number received. The Institution is much indebted to the following gentlemen for receiving the boxes containing the parcels and forwarding them, without any charge, to their respective destinations: Messrs. J. P. Jewett & Co., booksellers, Boston; George P. Putnam & Co., booksellers, New York; Messrs. Lippincott, Grambo, & Co., booksellers, Philadelphia; John Russell, bookseller, Charleston; B. M. Norman, bookseller, New Orleans; Dr. Geo. Engelmann, St. Louis, assisted by John Halsall, bookseller, St. Louis; H. W. Derby & Co., booksellers, Cincinnati; and Jewett, Proctor, & Worthington, Cleveland. As in the transmission of last year, most of the parcels sent included copies of the second volume of the great work on the Indian tribes, presented by Mr. Luke Lea, Commissioner of Indian Affairs, to recipients mostly nominated by the Smithsonian Institution. A number of copies of the valuable quarto volume on the North American mastodon, by Dr. John C. Warren, was sent by the author to the Smithsonian Institution, for such distribution as it might consider suitable.

III.—NATURAL HISTORY DEPARTMENT.

(*a.*)—COLLECTIONS.

During the year 1852, the collections of specimens illustrating the natural history of North America, and received by the Institution, have been very numerous, embracing a large number of species, either quite rare or absolutely new to science. A list of these additions will be found in the Appendix—the number of distinct donations exceeding 100. These embrace a very large number of specimens, as many of the collections indicated consist of several filled kegs, barrels, or boxes. To enumerate the individual components of each would occupy too much space in this report, although such a list is always made out as soon as possible after reception, and entered in books kept for the purpose. A copy is also sent to the donor, if desired. The specimens are assorted as fast as possible, and arranged as well as can be done in the temporary want of room or rooms for their proper preservation.

A gratifying feature in relation to the additions to the museum in the past year, consists in the number and value of those derived from officers of the army and navy. Such persons must always be the chief contributors of new matter, and it is a subject of much congratulation to find that they are becoming more and more alive to the importance of depositing their collections in a place where they can be readily visited, and, by combination with others procured under similar circumstances, serve to facilitate the preparation of the reports of expeditions, which are usually, to a considerable extent, made out in this city. I need only refer to the valuable collections of Lieut. Col. Graham, Major Emory, Captains Marcy and McClellan, Lieutenant Wright, Dr. Edwards, Dr. Jarvis, Lieutenant Gilliss, and others.

The collections of specimens officially deposited with the Institution during the year 1852, for safe-keeping and the preparation of reports, have been quite numerous. The zoological and palæontological series gathered by Mr. John H. Clark, under Lieutenant Colonel Graham, while on duty with the United States and Mexican boundary survey, far exceed any before made, under similar circumstances, in North America, considered in reference either to their extent or perfection of preservation. Major Emory has also sent in valuable specimens from the boundary, likewise collected by Mr. Clark. The Commissioner of the General Land Office deposited the extensive series of minerals and fossils collected by Dr. D. D. Owen, while engaged in the geological survey of Iowa, Wisconsin, and Minnesota. The very extensive and valuable collections made during a three years' residence in Chili by Lieut. J. M. Gilliss, U. S. Navy, have also been deposited by him, under authority from the Secretary of the Navy. They consist of numerous and well preserved skins of birds and mammals, reptiles, fishes, and invertebrates, in alcohol or dried, and plants, fossils, and minerals.

Many valuable collections have been received from meteorological and other regular correspondents of the Institution. These, scattered over the entire North American continent, constitute a corps always active in accumulating facts and materials of the highest importance in the promotion of science.

Some interesting specimens have been received by the Smithsonian Institution, under an engagement made with several societies and surveys to name collections which may be sent for that purpose. Such specimens, if necessary, are sent to naturalists residing out of the city, who make their examinations and report the results to the Institution.

The American Fur Company, ever ready to recognise the claims of science, has authorized the Institution to supply their posts on the upper Missouri with the materials for preserving specimens of natural history. For this purpose, through the kind agency of Dr. George Engelmann, of St. Louis, a quantity of alcohol and of arsenic was distributed at various points along that remote region, which will, no doubt, in time yield good fruit. The report for 1850 shows how much has already been done by gentlemen connected with the company, and it is hoped that the results for 1853 will in no degree fall behind what is there recorded.

I shall now proceed to give a brief systematic account of the specimens received, referring to the alphabetical list of donors for fuller information on the subject.

Mammals.—The collection of mammals from Northern Europe, announced last year as having been transmitted by the Academy of Sciences, Stockholm, has since arrived, and fully realized the anticipations of its value. It consists of well-preserved skins and skeletons of nearly all the larger species, as reindeer, elk, stag, bears, wolves, foxes, glutton, &c. All of them are indispensable to the proper determination of the allied American species—a task which could never before be accomplished for want of just such material. At the present time the Smithsonian Institution is in possession of the best collection of the larger North American and European mammalia, both skins and skeletons, to be found in the United States.

A skin of *Bassaris astuta*, brought by Captain Marcy from Red river, supplies the most northern locality yet known of this species. Some valuable mammals, from Western America, have been presented by the Academy of Natural Sciences. Skulls and horns of the common deer have been received from Mr. Stanley, Mr. Guest, and others. Mr. Stanley has also presented skins of the jaguar, *Felis pardalis*, and the peccary, *Dicotyles torquatus*, from Texas. Mr. Charles Wright, so well known for his botanical researches, has given a skin of the *Lynx texensis*, or Texas wild-cat. From Lieut. M. F. Maury has been received a skin of a young manatee, brought from the Amazon river by Lieut. Herndon.

Among skeletons of American mammals, the principal donation is that of the gray wolf of the Yellowstone river, presented by Mr. Edward T. Denig, to whom the Institution has before indebted for similar favors. Dr. Edwards presented skulls of buffalo, bighorn, &c., with those of Indians of several tribes.

Birds.—Several interesting collections of birds have been received from various sources. Mr. James Fairie has presented some rare species from Louisiana; Mr. Chas. Wright, a series from the vicinity of Frontera, including several species recently described from the valley of the Rio Grande; and Dr. P. R. Hoy, some from the vicinity of Racine, Wisconsin, one of the most interesting ornithological districts in North America. Mr. Wallington has sent an interesting collection of the eggs of birds inhabiting the Tortugas.

Reptiles.—As usual, the most marked additions to the collections of the Institution are to be found in the department of reptiles and fishes. These have been received from all portions of the United States, including California, New Mexico, and Texas. Mr. J. S. Bowman, during a recent journey to California across the plains, collected specimens of *Phynosoma platyrhinos*, and forwarded them living, with some others of much interest. Dr. Boyle has deposited a valuable collection from Eldorado county, California. A small number of specimens procured by Dr. Gambel, in the same country, has also come into possession of the Institution. Mr. Lindheimer sends numerous specimens from Western Texas; Captains Marcy and McClellan, from Red river; Mr. James Fairie, in Western Louisiana; Colonel B. L. C. Wailes and Dr. Shumard, in Mississippi; Dr. P. R. Hoy, of Racine, Wisconsin; and Rev. Charles Fox, of Wayne county, Michigan, have also greatly enriched the collection with western species. Species from Western Pennsylvania have been received from Professor Williams; and from South Carolina, from Dr. Barker, of Charleston, and Dr. Barratt, of Abbeville.

Fishes.—The collections in this department grow with great rapidity. Mr. Girard brought many specimens from Maine last autumn. A few weeks spent in Massachusetts and New Hampshire gave to myself the opportunity of completing the collections of fresh-water fishes of these States. Very full collections of the fishes of Lake Erie have been received from Rev. Charles Fox; of Lake Michigan, from Dr. Hoy; of the Wabash river, from Dr. Norwood; of the coast of Carolina, from Dr. Barker; of the Tortugas, from Lieut. Wright; of Cayuga lake, from Mr. Hopkins; as well as interesting series from Col. Wailes, of Mississippi; Prof. Porter, of Mercersburg, Pennsylvania; Mr. White, of Georgia; Dr. Bibb, of Russellville, Kentucky; Dr. Barratt, of Abbeville, South Carolina; Dr. Wormley, of Columbus, Ohio; Dr. Stevens, of Olean, New York, and many others. One of the most important additions consists of a series of nineteen species of *Cyprinodonts*, labelled by Prof. Agassiz, and serving as types of the paper on this family which he proposes to present to the Institution. Numerous species of North European fishes were presented by the Swedish Academy of Sciences, Stockholm.

Invertebrates.—Very important additions have been made to the aquatic species of invertebrates from various sources. Among the most valuable are those sent from the Tortugas by Lieut. Wright, embracing a large number of new and rare forms. A collection of similar extent, from the coast of Carolina, was forwarded by Lieut. Kurtz. *Unionidæ* have been received from Col. Wailes, of Mississippi, and Prof. Safford, of Tennessee, in large numbers. A small collection of land shells, from Oregon, was presented by Dr. Shumard: out of fourteen species furnished, six are new to science. A very important addition to the collection consists of a series of eighty species of shells from Greenland, presented by Mr. Christian Drewsen, of Copenhagen.

The *insects* received have been few in number, and these principally from Mr. Fairie, who sent quite a large collection of *Lepidoptera* and *Coleoptera*. Many species of *Orthoptera* were procured on Red river by Captain Marcy, and in Texas by Mr. Lindheimer.

Plants.—A collection of plants of Delaware county, Pennsylvania, was presented by the Delaware County Institute. A suite of plants, collected by Lindheimer in Texas, was obtained through Dr. Engelmann. Dr. Shumard sent a small collection from Oregon. Valuable donations of algæ were made to the Institution by Miss Brewer, Lieut. Kurtz, &c. A small series belonging to Lieut. Lynch's collections on the shores of the Dead Sea was presented by Hon. J. P. Kennedy.

Fossils and minerals.—The Commissioner of the Land Office has deposited with the Institution additional specimens of fossils from the Minnesota survey, collected by Dr. Owen, including some of the vertebrate remains from Nebraska. Infusorial earths from Virginia have been received from Prof. William B. Rogers and Dr. Beck. A suite of coal plants was sent from the mines above Harrisburg, Pennsylvania, and a series of silurian fossils from Dr. Stevens, of Olean. Remains of fossil elephant, from near Wheeling, were presented by Mr. Alfred Sears, and of mastodon, from Fort Gibson, by Mr. B. Marshall. Lieut. Gilliss forwarded a very interesting collection of fossils from Chili. The principal minerals received consisted of gold and silver ores from Mexico, presented by Dr. Jarvis, together with copper ores from Chili, by Lieut. Gilliss.

Ethnology.—Various remains of the North American Indians have been received by the Institution during the year; but much the most important addition in this department is to be found in a large number of axes, arrow-heads, and other stone instruments, from Denmark, presented by Prof. C. C. Rafn, of Copenhagen; thus affording an interesting opportunity of comparing the closely allied implements used by the aborigines of Europe and of North America.

(b.)—PRESENT CONDITION OF THE COLLECTIONS.

During the year as much progress has been made in the final determination and arrangement of the specimens as the press of other occupations would allow. Those in alcohol have been kept in proper condition, and such dried skins have been baked as needed this process as a preservative against the attacks of insects. A number of mammals, preserved in alcohol, have been dried for the purpose of ascertaining accurately their specific character. The unfinished state of the museum apartment renders it necessary to confine the collections in as small space as possible, none but basement rooms being available. The labor of labelling the specimens is greatly increased by the fact that many of the species are undescribed. In illustration of this I may state, that in the single department of the serpents, the Institution possesses more than twice as many North American species as are given in the great work of Dr. Holbrook. To render this mass of matter immediately available to science, the preparation of catalogues has been commenced, similar to those of the British Museum and the Museum of Natural History in Paris. In these, full descriptions of the genera and species will be given, and such known species as may not have been received by the Institution will be inserted in an appendix. Each volume will thus constitute a complete manual of a portion of the natural history of North America. The first of these catalogues—that of the serpents—is in press, and will very shortly be finished.

(c.)—SCIENTIFIC EXCHANGES.

A great many applications have been made to the Institution, by parties at home and abroad, for information or assistance in making exchanges of specimens of natural history. Such help is always cheerfully rendered, and some important relationships have been thus established. Some of the gentlemen who have made these applications are as follows:

Christian Drewsen, Copenhagen, desires to exchange North European and Algerian *Coleoptera* for *Coleoptera*, *Lepidoptera*, and *Hemiptera*, of North America.

Friedrich Sturm, Nürnberg, and **Adolph Senoner**, Vienna, wish American ferns in exchange for European.

Dr. G. **Von dem Busch**, Bremen, wants North American shells, especially *Melania*, in exchange for European.

Prof. H. R. **Göppert**, Breslau, director of the botanic garden, wants seeds of all plants common to Europe and America, as an auxiliary to certain investigations upon the influence of climatological conditions upon vegetation.

B. **Cazenirvette**, Rue Pelegrin, and **Dumoulin**, ainé, 8 Place de la Bourse, Bordeaux, desire North American fresh-water and land shells in exchange for European.

Dr. **Francesco Lanza**, of Spalato, in Dalmatia, desires to exchange fossils, minerals, reptiles, shells, plants, &c., of Dalmatia, and the Adriatic, for crystallized minerals and shells from North America.

(*d.*)—REGISTRY OF PERIODICAL PHENOMENA.

The blanks for the registry of the periodical phenomena of animal and vegetable life in 1852, were distributed early in the last spring. Most of these have been returned filled, and imbody information of the highest interest. Many were accompanied by carefully-prepared lists of the animals and plants of their respective stations; constituting material towards an accurate determination of the geographical distribution of species. The results thus obtained will be carefully tabulated and published at the earliest practicable moment.

Respectfully submitted:

SPENCER F. BAIRD,
Assistant Secretary.

APPENDIX A.

Account of scientific explorations, and reports on explorations, made in America, during the year 1852: By Spencer F. Baird.

In the present article I propose to give a brief account of the progress of scientific explorations in America during the year 1852. It will be seen that the record is much more extensive than that of the last year, affording gratifying proof of the increasing interest felt by government and individuals in the development of the geography, geology, ethnology, and physical and natural science of this country.

I propose to take up the history of discovery in the following order:

1. Smithsonian Institution.
2. War Department.
3. Topographical Bureau.
4. Department of the Interior.
5. Land Office.
6. Navy Department.
7. Coast Survey.
8. Domestic States, Societies, and Individuals.
9. European States, Societies, and Individuals.

As the account of the operations of the Smithsonian Institution, in the way of exploration, has already been given in your report, I shall proceed directly to the second head.

2. War Department.

Exploration of Red River.—In June of last year an expedition was sent out by the War Department for the purpose of exploring the country along the Red river of Arkansas and its tributaries, under command of Captain R. B. Marcy, so well known as an energetic explorer, and accompanied by Captain Geo. B. McClellan. The party started from Cache creek, a stream rising in the Wichita mountains and emptying into Red river. Fom this point they passed along the ridge separating Cache creek from Red river, to Otter creek. The mouth of this stream, in lat. 34° 30′ and long. 100° 10′, was found to constitute the southwestern terminus of the Wichita mountains, a range about seventy miles long and twenty-five wide. In these mountains, and beyond, many interesting discoveries of granite basalt, great beds of gypsum, &c., were made. Passing along th north fork of Red river to its head, they crossed over to the Canadian From this stream they struck and explored the middle and south fork of Red river; along the latter of which they returned. Astronomica and other observations were diligently made throughout the journey and many important facts ascertained in regard to the geology, agricultural capabilities, and geography of this region, hitherto nearly blank in our maps. A very extensive collection of plants, reptiles fishes, insects, fossil remains, &c., was made, which, besides embracin much that is new, will tend to throw great light upon the geographica distribution of species.

3. Topographical Bureau.

Exploration of the Zuñi and Colorado rivers.—The expedition for th exploration of the Zuñi river, organized under Captain L. Sitgreaves returned last winter, after having accomplished all its objects in remarkably short space of time. Accompanied by Lieut. J. G. Parke Dr. S. W. Woodhouse as surgeon and naturalist, Mr. R. H. Kern a artist, and Mr. A. Leroux as guide, the party left the pueblo of Zuñ on the 24th of September with an escort of thirty men, commande by Major H. L. Kendrick, of the 3d artillery. Passing down th Zuñi (which proved to be an inconsiderable stream) to its junctio with the Little Colorado, sixty miles below, they continued down t the Cascades, some eighty-six miles further, where the stream fall into a deep cañon. From this point they were compelled to strik across to the Colorado, and descended this stream about two hundre and fifty miles to its mouth. Crossing over to San Diego, they arrive at the termination of that part of their journey in the end of Decembe A great part of the route never having been before explored, muc was done by the expedition in rectifying and improving the geograph of the region, while Dr. Woodhouse made use of the scanty opportunities afforded by the barren soil, to collect specimens of natural history many of which have proved new to science. These will be publishe in the report of the expedition, shortly to be submitted to Congress.

Survey of the Lakes.—The survey of the Northern lakes has bee carried on with great energy during the past year. Besides extendin and verifying the triangulations in the vicinity of Green Bay an Mackinac, a base line was measured at the latter place under th immediate direction of Captain T. J. Lee. The apparatus with whic this important work was conducted was made by Mr. Wm. Wurdeman of this city, and is considered to be fully equal, if not to surpass an ever used before for similar purposes.

Exploration of Utah.—The report of Captain Stansbury of his exploration of the valley of the Great Salt Lake appeared in June, 1852. A in most of the recent explorations undertaken by the Topographica Bureau, many important discoveries in natural science were mad during this exploration, the results of which are here given. Man new species of mammals, birds, reptiles, insects, plants, and fossi remains, are first published in this report. The additions to our geographical information have also been very extensive, tending greatl to clear up the obscurity which prevails in regard to the geography of the great Central Basin. The discovery of a new route and pass through the Rocky mountains is also one of very great importance.

4. DEPARTMENT OF THE INTERIOR.

United States and Mexican Boundary Survey.—During the past year the operations on the boundary line between the United States and Mexico, under John R. Bartlett, esq., and Major William H. Emory, have been prosecuted with great vigor. The survey of the river Gila has been completed from its confluence with the Colorado to the point where it is struck by the western boundary of New Mexico. The Rio Grande has also been surveyed from the initial point agreed upon, to the Laredo, with the exception of a strip between San Vicente and the mouth of the Pecos. The connecting link between the two lines has also been surveyed provisionally. It is probable that, should Congress make suitable appropriations, the whole field work will be completed in 1853. In addition to the exceedingly numerous and accurate observations in astronomy, geography, meteorology, and terrestrial magnetism, the collections in geology, mineralogy, zoology, and botany, made by Messrs. Parry, Wright, Clark, Bigelow, Thurber, and Webb, have been of great extent and value, supplying us with almost as thorough a knowledge of many forms of organic life in this country as of the long-settled portions of the United States. The perseverance of the gentlemen of the commission has been rewarded by the acquisition to science of a large number of undescribed and rare species.

5. LAND OFFICE.

Geological Survey of Oregon, by Drs. Evans and Shumard.—Dr. Evans left St. Louis in the month of June, and ascended the Missouri to the mouth of the Yellowstone. From this point he crossed over to the Pacific coast, pursuing an entirely different route from that traversed by other explorers. His route passed through the very centre of the Black Feet country, and over the Rocky, Blue Range, and Cascade mountains, terminating at Oregon City; which he reached about the middle of October. In this journey, though accompanied a great portion of the way by only a single man, he explored the main chain of the Rocky mountains for a distance of nearly two hundred miles, without a guide, or even a trail, and discovered a pass several degrees farther north than that usually travelled. The observations made along the line of his route will enable him to construct a geological section from the Mississippi river to the Pacific ocean. Many geographical facts were collected of the highest value, which will constitute a very important addition to our stock of knowledge in relation to a portion of country hitherto almost entirely unknown.

The assistant geologist, Dr. Shumard, embarked from New York in the latter part of June of the same year, and proceeded, by way of the isthmus of Panama, to San Francisco, and thence to Oregon, where he arrived early in August, and shortly after began his explorations, following the main lines of survey, and locating his observations, as far as practicable, by townships and sections.

In addition to the materials for accurate geographical determinations, the results of the observations of Drs. Evans and Shumard have been of the greatest practical importance. Valuable and extensive deposits of limestone, porcelain earth, tertiary coal, &c., were ascertained to exist.

Geological Survey of Lake Superior.—In obedience to instructions from the Land Office, Messrs. Foster and Whitney revisited the scene of their previous explorations on Lake Superior, with the view of collecting the most recent information respecting the mining region. They will probably submit the result to Congress in the form of a final report upon the entire subject of the mineral lands of this interesting region.

The final report of Dr. D. D. Owen on the Geology of Wisconsin, Iowa, and Minnesota, was published towards the end of the year 1852. This constitutes the most elaborate work of the kind ever issued by government, consisting of two quarto volumes, with numerous illustrations on wood and steel. The palæontological portion is of much importance, containing, in addition to the invertebrata described by Dr. Owen, a paper by Dr. Joseph Leidy on the fossil *Rhinoceros*, *Palæotherium*, *Archæotherium*, *Testudo*, &c., of the Mauvaises Terres.

The second part of the *Report of Messrs. Foster and Whitney on the Geology of Lake Superior* also appeared during the past year. With the able assistance of Professor James Hall, they have been enabled to present some very important comparisons between the fossils and fossiliferous rocks of Europe and America, besides describing many new species.

6. NAVY DEPARTMENT.

The year 1852 will ever be memorable in the annals of the American navy for the extent of the explorations either completed or commenced within its limits. Under the liberal administration and enlightened policy of the Hon. J. P. Kennedy, Secretary of the Navy, all the disposable force of the department has been brought to bear upon the advancement of geographical knowledge.

Astronomical Expedition to Chili.—Lieut. Gilliss returned in November last from a three years' residence at Santiago, in Chili, to which place he had gone for the purpose of observing the parallax of Venus. During the time of his absence he made more than forty thousand observations on this planet, besides gathering a very large number of facts in regard to other departments of astronomy, magnetism, meteorology, earthquakes, geography, &c. He also made very valuable collections in natural history, especially in ornithology, in many respects superior to those collected and published by Claude Gay, in his History of Chili.

Lieut. McRae, who, with Lieut. Phelps, had been the companion of Lieut. Gilliss, was detached by him to carry a magnetical and meteorological profile across the continent over the Andes. This route will be, for the most part, through an unexplored region, and the result will no doubt be of very great interest.

Exploration of the Amazon.—Lieut. Herndon, U. S. N., returned in the summer from his exploration, in connexion with Lieut. Gibbon, of the Amazon and its tributaries. As the most feasible way of penetrating this region, they crossed the Cordilleras, in Peru and Bolivia, and passing through an almost unknown geographical region, descended the Amazon to its mouth. Lieut. Gibbon took a somewhat different route, and has not yet returned. Both gentlemen have, in addition to their physical investigations, made copious notes on the natural history of the countries traversed, which will, in time, be presented to Congress.

Although not properly coming within the history of the past year, it may not be inappropriate to mention some of the enterprises in contemplation for 1853, which are in an active state of forwardness, and which bid fair to render this year conspicuous above all others in the annals of American discovery. The most important of these is the proposed *survey of the seas of the North Pacific and Behring's straits*, under Captain Cadwallader Ringgold. This officer will leave early in the spring with four vessels, all constructed and fitted for the purpose. He will take with him a complete outfit of instruments and apparatus for the successful prosecution of all branches of physical science, in addition to the hydrographical details, upon which he will, of course, bestow especial attention. By the liberal construction of the law of Congress ordering this survey, on the part of Mr. Kennedy, he will be accompanied by a corps of naturalists well skilled in their respective duties, and provided with all the material necessary to a successful prosecution of their investigations and explorations.

The next exploration in contemplation is that of the *river Parana and its tributaries*. Captain Page has been assigned to this duty, and, in command of a small steamer, will start in a few weeks. The limited accommodations on board prevented the addition of a naturalist to the corps, but this want will be made up by the zeal of the officers themselves, who go fully provided with the means for making collections. Much of interest will doubtless be furnished by the plants of this unexplored region. The expedition will be accompanied by an experienced horticulturalist, who will collect roots, seeds, and living plants, as well as dried specimens.

Dr. Kane, U. S. N., so well known as an enterprising traveller, will proceed next April on a second voyage *in search of Sir John Franklin*. Supplied with the requisite funds by the munificence of Mr. Henry Grinnell and Mr. George Peabody, in connexion with the Geographical Society of New York, and of the Smithsonian Institution, and accompanied by a picked crew, Dr. Kane will undoubtedly add much to our previous knowledge of the meteorology, magnetism, geography, and natural history of the remote regions of the north. The expedition will be accompanied by a skilful collector, who will bestow especial attention upon the minute invertebrata of the Arctic ocean.

Captain *Lynch*, to whom we are indebted for so much information respecting the Dead Sea, has again started upon a similar enterprise. Under the direction of the Secretary of the Navy, he will proceed to the coast of western Africa, touching at various points as far as the river Gaboon, for the purpose of ascertaining the most suitable point for penetrating this little known continent. As soon as his reconnoissance has been completed, he will be supplied from home with an organization of vessels, men, apparatus, &c., necessary to continue his researches. Much is anticipated for science in this expedition, as in addition to the more immediate object of obtaining reliable information in respect to a future extension of colonization on the coast.

7. Coast Survey.

This highly important work, under the able superintendence of Prof. A. D. Bache, has progressed rapidly during the past year. The division into sections, adopted some years ago, seconded by liberal appropriations from Congress, has enabled the Superintendent to bring out results of the greatest value. The sections at present established are as follows:

Section I. From Passamaquoddy bay to Point Judith, including coasts of Maine, New Hampshire, Massachusetts, and Rhode Island.

Section II. From Point Judith to Cape Henlopen, including coasts of Connecticut, New York, New Jersey, Pennsylvania, and Delaware.

Section III. From Cape Henlopen to Cape Henry, including coasts of Delaware, Maryland, and Virginia.

Section IV. From Cape Henry to Cape Fear, including coasts of Virginia and North Carolina.

Section V. From Cape Fear to the St. Mary's river, including coasts of South Carolina and Georgia.

Section VI. From St. Mary's river to St. Joseph's bay, under Anclote keys, including the Florida reefs and keys.

Section VII. From St. Joseph's bay to Mobile Point, including the remainder of the coast of Florida.

Section VIII. From Mobile Point to Vermillion bay, including coasts of Alabama, Mississippi, and Louisiana.

Section IX. From Vermillion bay to Mexico, including part of coast of Louisiana and Texas.

Sections X and XI. Coast of California and Oregon.

Our limits will not allow us to go into the particulars of operations on this great national work further than to state that, in every Section, triangulations, surveys, and soundings, in great number, have been made. The charts and sketches published or in progress amount to upwards of eighty, and in point of mechanical execution and accuracy are unsurpassed. In addition to the strictly hydrographical and geodetical operations, observations have been made in magnetism, meteorology, astronomy, tidal phenomena, &c., of the highest importance. Great interest, too, is felt by many officers of the survey, in different branches of natural history, which will yield practical results of great moment.

8. Domestic States, Societies, and Individuals.

State Surveys.—The geological surveys of the different States, as referred to in my last report, are progressing with considerable rapidity. New York has published three additional volumes of her series of magnificent quartos—one of palæontology, by Prof. James Hall; the others on agriculture and on fruits, by Prof. E. Emmons. The field-work of the Pennsylvania survey, under Prof. H. D. Rogers, is nearly completed, and the final report in active state of forwardness. North Carolina, Illinois, Mississippi, and the other States, are actively engaged in the development of their geological and palæontological history, under the supervision of the able gentlemen to whom these trusts have been committed.

Antiquities of Wisconsin.—Mr. J. A. Lapham, of Milwaukie, has completed the elaborate survey of the antiquities of Wisconsin, upon which he has been so long engaged, under the patronage of the American Antiquarian Society at Worcester. The manuscript record of his operations is illustrated by a large number of quarto illustrations and many wood-cut figures—the whole constituting the most important contribution to American ethnology made, since the publication of the work by Messrs. Squier and Davis, on the ancient monuments of the Mississippi valley.

Dr. Adolphus L. Heermann, of Philadelphia, returned last spring from several years' residence in California. During his stay he devoted especial attention to the subject of ornithology, and with such success that his collections far exceed in number and value all others previously made in that region. He also procured many specimens of mammals, reptiles, insects, &c.—the whole furnishing a large amount of materials new to science.

Colonel *George A. McCall*, of the United States army, during a recent tour through Oregon and California, in pursuance of his duties as inspector general, embraced the occasion, as in previous instances, to secure such zoological specimens as fell in his way. The most interesting acquisition thus made was that of a new genus of Saurians, somewhat resembling *Phrynosoma* in the presence of spines on the head, since characterized by Dr. Hallowell under the name of *Anota.*

Reference has already been made to the very great additions to our knowledge of the geographical range and association of species furnished by the collections and reports of the numerous correspondents of the Smithsonian Institution, scattered, as they are, over the entire area of the United States. The particular record of their operations will be found in the list of additions to the museum of the Smithsonian Institution.

Mr. *William Stimpson*, whose labors have been referred to in a previous report, during last summer again visited the rocky shores of Grand Manan, where he found a rich harvest. Many new species of marine invertebrates were procured, and others added to the American fauna, which were previously known only on the coast of Europe or of Greenland. The results of his investigations he proposes to present to the Smithsonian Institution, in the form of a memoir on the marine invertebrata of Grand Manan. This gentleman has been selected to accompany the expedition of Captain Ringgold, as zoologist, and will, doubtless, in connexion with his associate, Mr. Wright, as botanist, be the means of greatly extending the domain of natural science.

Marine Algæ.—The publication, by the Smithsonian Institution, of *Harvey's* Marine Algæ of North America, has been the means of exciting great interest in the study of this attractive department of botany. Numerous collections have been made during the past summer, by different individuals, embracing many species additional to those described by Dr. Harvey.

Professor *C. B. Adams*, of Amherst College, having just completed his work on the shells of Panama, and desirous of procuring additional facts in regard to the distribution of marine animals, visited the island of St. Thomas in December last; whence, after spending some time there, he proposes to proceed to the other islands of the same group. An appropriation has been made by the Institution to defray a portion of his expenses.*

Exploration of Garden Key, Florida.—A very thorough exploration of Garden Key, by Lieut. Wright, resulted in the addition of many new and rare species of marine animals. The collections thus made were forwarded by him to the Smithsonian Institution, where they arrived in perfect order during the past summer.

9. Foreign States, Societies, and Individuals.

During the past year several foreign savans of eminence have visited this country for the purpose of commencing explorations or continuing those previously begun. Sir Charles Lyell made his third visit to the United States, and, as on previous occasions, endeavored to clear up certain doubtful points in the geology of this country. Dr. Charles Scherzer, of Vienna, and Dr. Moritz Wagner, of Munich, were sent out, under the patronage of the Academy of Sciences of Vienna, for the purpose of instituting inquiries into the social and civil condition, the physical geography, and the natural history of North America. In pursuance of this object they have already visited the region of the lakes and of the Mississippi, and are now in New Orleans, preparing their reports upon what they have seen. It is their intention, some time in 1853, to penetrate into South America, and to pass several years in explorations in various unknown parts of the continent.

Prince Paul, of Wurtemberg, well known as an enterprising traveller and naturalist, has, for the present, completed his collections and investigations in the United States, and is about starting for Chili, where he proposes to continue his labors. His specimens have all been transmitted to Europe, where they will be elaborated as soon as possible.

A valuable report has recently been published in Germany upon the cretaceous formation of Texas, and its included fossils. The author, Dr. Ferdinand Rœmer, visited this country some years ago with special reference to this geological formation, and has presented in the above work, in an elaborate form, what was given in less detail in a smaller volume issued in 1849. The determinations of Dr. Rœmer are of much interest, as constituting nearly all that is known of the geology of Texas.

Very important contributions to our knowledge of the Northwest have been made by the reports of the voyage of H. B. M. ship the Herald. This vessel, during several years' absence in the region of Behring's straits, made numerous collections in natural history, the accounts of which are now in course of publication. One of the parts already issued consists of a minute account of the remarkable ice cliffs of Kotzbue's sound, and the remains of various species of the elephant, ox, deer, musk-ox, &c., imbedded therein. Another is occupied by the *botany* of Western Esquimaux land.

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* As this Report is passing through the press, the Institution has heard, with deep regret, of the death at St. Thomas, of Professor Adams.

APPENDIX B.

Alphabetical list of donors to the Museum of the Smithsonian Institution.

Academy of Natural Sciences.—Skins of mammalia from Oregon, (in exchange.)

Academy of Sciences, Stockholm.—Collection of skins and skeletons of mammals, with reptiles and fishes preserved in alcohol, from Northern Europe.

Agassiz, Prof. L.—Nineteen species of North American *Cyprinodonts.*

Ames, James T., and H. K. Brown.—Statuettes of male and female Ottawas and of male Chippewas, modelled by H. K. Brown, and cast in bronze by James T. Ames, at Springfield, Massachusetts.

Baird, S. F.—Fishes and reptiles from Massachusetts and New Hampshire.

Baird, W. M.—Specimens of *Pimelodus* from Reading, Pennsylvania.

Barker, Dr. S. B.—Fishes and reptiles from Charleston, South Carolina.

Barratt, Dr. J. B.—Reptiles, fishes, &c., from Abbeville, South Carolina.

Bartlett, Joshua.—Shells, &c., from Whitehead, Maine; skin of lump fish; various fishes and crustaceans, in alcohol.

Beck, Dr. Wm. B., U. S. N.—Fossil wood from near Fredericksburg, Virginia. Infusorial earth from Rappahannock cliffs.

Bibb, George R.—Fishes and reptiles from Russelville, Kentucky.

Blunt, Lieut., U. S. N.—Minerals from California.

Boden, Dan. B.—Specimen of *Lota* from Otsego Lake.

Bowman, J. Soule.—Reptiles from California, and fishes from the Sweetwater branch of the Platte.

Boyle, Dr. C. C.—Reptiles from California, (dep.)

Brewer, Miss.—Prepared Algæ from the coast of Massachusetts.

Butterfield, Hon. J.—Three boxes of geological specimens collected by Dr. D. Owen in his U. S. surveys.

Delaware County Institute, through *George Smith.*—Collection of the plants of Delaware county, Pennsylvania.

Denig, E. T.—Skeleton of female gray wolf, from the Yellowstone river.

Dyer, G. H.—Skin of albatros—Cape Horn.

Drewsen, Christian.—Eighty species of Greenland shells.

Eakins, D. W.—Stone pipe dug up from a depth of thirty-two feet, in the Cherokee nation.

Edwards, Dr., U. S. A.—Skulls of Indians, buffalo, bighorn, &c.

Emory, Major W. H.—Skins and skeletons of mammalia, from Texas.

Engelmann, Dr. George.—Suite of plants collected by F. Lindheimer in Texas, and by himself about St. Louis.

Fairie, James.—Reptiles, insects, stalactites, and a specimen of maguey plant, from Orizaba. Collection of reptiles, birds, &c., from Morehouse parish, Louisiana.

Fox, Rev. Charles.—Several very full collections of fishes, reptiles, &c., from Grosse Isle, Michigan.

Gilliss, Lieut. J. M., U. S. N.—Fossils from Caldera, Chili.

Girard, C.—Fishes from Maine.

Guest, W. E.—Two heads of common deer, (*Cervus Virginianus,*) skins of cross fox and otter.

Hopkins, Wm.—Collection of fishes from Cayuga lake.

Hoy, Dr. P. R.—Fishes and reptiles from Racine, Wisconsin; skins of birds from Wisconsin.

Jarvis, Dr., U. S. A.—Gold and silver ores from Mexico.

Keller, J. S.—Geological specimens from Schuylkill county, Pennsylvania.

Kelsey, W.—Crystallized copper from Cliff mine, Lake Superior.

Kennedy, Hon. J. P., Secretary of the Navy.—Plants collected around the Dead Sea by Captain Lynch, U. S. N.

Kurtz, Lieut. J. D.—Large collection of recent and fossil shells from the coast of South Carolina; shells and crustaceans, in alcohol and dried, from Charleston harbor; algæ from the same locality.

Lindheimer, F.—Fishes, reptiles, crustaceans, &c., from New Braunfels, Texas.

Lewis, K.—Stone used by the Indians in dressing skins, from the fork of the Arkansas and Verdigris rivers.

Marsh, Hon. George P.—Collection of shells, seeds, crocodiles' eggs, &c., from Egypt.

Marshall, B.—Tooth of *mastodon*, found thirty-five miles above the mouth of Grand river, near Fort Gibson.

Maury, Lieut. M. F.—Skin of young *manatus*, from the Amazon.

Marcy, Captain R. B., and *Captain McClellan.*—Fishes, reptiles, and insects, from Red river, Arkansas.

Norwood, Dr. J. G.—Fishes from the Wabash river.

Porter, Professor T. C.—Fishes, &c., from near Mercersburg, Pa.

Prescott, Dr. Wm.—Typical specimen of *Coregonus novangliæ.* Lake Winnipisiogee.

Prince, George—Specimen of *Chironectes*, crustacea, and gulf-weed, from the Gulf Stream.

Rafn, Professor C. C., through *J. F. Jillson.*—Stone axes, arrow-heads, &c., from Denmark.

Rodgers, Lieut. John, U. S. N.—Fish caught in sounding-line off Cape Florida; soundings from same locality.

Rogers, Professor W. B.—Infusorial earth from near Richmond, Virginia, and from Barbadoes.

Ruhl, F.—Skeletons of bat, *Vespertilio pruinosus;* of a fish, *Tautoga Americana;* skeleton of *Coluber* and skin of *Harelda glacialis*, from New York.

Safford, Professor J. M.—Fifty species of *Unionidæ*, from Tennessee.

Sears, Alfred.—Tusk and tooth of fossil elephant, from diluvium near Wheeling; Indian remains from a mound near the same locality.

Shumard, Dr. B. F.—Plants and shells collected in Oregon; collection of reptiles from Mississippi.

Stanley, J. M.—Porcupine quills, as colored for manufacturing purposes, by the Indians of Arkansas; skin of *Felis onca*, or jaguar, and of *Dicotyles torquatus*, or peccary, from Texas; interlocked horns of two deer, *Cervus Virginianus*; horns of ditto in the velvet.

Stevens, Dr. R. P.—Fossil remains, shells, fishes, reptiles, &c., from Olean, New York.

Thompson, Rev. Zadock.—Specimens of *Leuciscus atromaculatus*, and *cornutus*, from Vermont; *Menobranchus*, and various species of fishes, from Lake Champlain.

Totten, Lieut. James, U. S. A.—Leaf of Sisal hemp, from Florida.

Varden, John.—Specimens of coal, from the great London exhibition.

Wailes, Col. B. L. C.—Recent and fossil shells, from Mississippi; marine fishes, from the coast of Mississippi; *Unionidæ* and *Chelonia*, from Mississippi.

Wallington, F.—Nests and eggs of birds, from Garden Key, Florida.

Wheatland, Dr. H.—Living specimens of *Testudo tabulata*, from Para, and "*Scaphiopus solitarius*," from Danvers, Massachusetts.

Wheeler, Dr. S. J.—Amber, from near Murfreesborough, N. Carolina.

White, B. A.—Fishes from Oconee river, Georgia.

Whitney, Samuel.—Native copper and silver, from Lake Superior.

Williams, Professor L. D.—Specimens of *Menopoma* and *Menobranchus*.

Wormley, Dr. T. G.—Fishes and shells, from the vicinity of Columbus, Ohio.

Wright, Lieut. H. G.—Fishes, corals, crustacea, and shells, from Tortugas.

Wright, Charles.—Skins of birds and lynx, with skull of wolf; fossil shells, &c., from near Frontera, Texas.

Donor unknown.—Fossils from Middlesex county, Virginia.

" " Fossil coal plants from near Harrisburg, Pa.

" " Minerals from Washington county, Maryland.

" " Specimens of *Amia*, *Catostomus*, *Clupea*, and *Coluber Alleghaniensis*.

APPENDIX C.

List of Foreign Institutions to which Volumes III and IV, Smithsonian Contributions to Knowledge, were sent, June, 1852.

SWEDEN.

Lund.—University Library.
Stockholm.—Kongliga Svenska Vetenskaps Akademien.
Vitterhets Historie och Antiquitets Akademien.
Riksbiblioteket.
Upsala.—University Library.
Société Royale des Sciences à Upsal.

NORWAY.

Bergen.—Bergen's Museum.
Christiania.—The University Library.

ICELAND.

Reykjavik.—Islands Stiftisbokasafn.

DENMARK.

Copenhagen.—Kongelige Nordiske Oldskrift Selskab.
Kongelige Danske Videnskabernes Selskab.
Kongelige Bibliothek.

RUSSIA.

Dorpat.—Observatoire Impérial.
Kasan.—University Library.
Moscow.—Société Impériale des Naturalistes de Moscou.
St. Petersburg.—Académie Impériale des Sciences.
Imperial Public Library.
Administration Impériale des Mines.

HOLLAND.

Amsterdam.—Académie des Sciences.
Haarlem.—Hollandsche Maatschappij der Wetenschappen.
Hague.—Royal Library.
Leyden.—University Library.
Middelburg.—Zeeuwsche Genootschap der Wetenschappen.
Rotterdam.—Bataafsch Genootschap der proefondervindelijke Wijsbegeerte.
Utrecht.—Utregtsch Genootschap van Kunsten en Wetenschappen.

GERMANY.

Berlin.—Königlich-Preussische Akademie der Wissenschaften.
Königliche Bibliothek.
Königliches Museum.
Gesellschaft Naturforschender Freunde.
Bonn.—University Library.
Bremen.—Stadt-Bibliothek.
Breslau and Bonn.—K. L. C. Akademie der Naturforscher
Dresden.—Königliche Bibliothek.
Erlangen.—University Library.
Frankfurt am Main.—Senckenbergische Naturforschende Gesellschaft.
Freiberg.—Königlich-Sächsische Bergakademie.
Freiburg.—University Library.
Giessen.—University Library.
Greifswald.—University Library.
Goettingen.—Königliche Gesellschaft der Wissenschaften.
University Library.
Halle.—University Library.
Hamburg.—Stadt-Bibliothek.
University Library.

Hannover.—Royal Library.
Heidelberg.—University Library.
Innspruck.—University Library.
Jena.—University Library.
Karlsruhe.—Grossherzogliche Hofbibliothek.
Koenigsberg.—University Library.
Leipsic.—Stadt-Bibliothek.
Königliche Sächsische Gesellschaft.
Marburg.—Gesellschaft zur Beförderung der Gesammten Naturwissenschaften.
University Library.
Munich.—Königlich Bayerische Akademie der Wissenschaften.
Königliche Hof-und Staatsbibliothek.
Prag.—University Library.
Königliche Böhmische Gesellschaft der Wissenschaften.
Böhmisches Museum.
Pesth.—University Library.
Ungarische Gelehrte Gesellschaft.
Stuttgart.—Königliche Oeffentliche Bibliothek.
Verein für Vaterländische Naturkunde.
Tübingen.—University Library.
Vienna.—K. K. Akademie der Orientalischen Sprachen.
Kaiserliche Hofbibliothek.
University Library.
Kaiserliche Akademie der Wissenschaften.
Würzburg.—University Library.

BELGIUM.

Bruxelles.—Académie Royale des Sciences, des Lettres et des Beaux-Arts.
Observatoire Royal.
City Library.
Gand.—University Library.
Liege.—Société Royale des Sciences.
Louvain.—Université Catholique.

FRANCE.

Bordeaux.—Académie des Sciences, Belles-Lettres et Arts.
Société Linnéenne.
Caen.—Académie des Sciences, Arts et Belles-Lettres.
Société Linnéenne de Normandie.
Société des Antiquaires de Normandie.
Dijon.—Académie des Sciences, Arts et Belles-Lettres.
Lille.—Société des Sciences, de l'Agriculture et des Arts.
Mende.—Société d'Agriculture, Commerce, Sciences, et Arts.
Lyon.—Société d'Agriculture, d'Histoire Naturelle, et des Arts Utiles.
Académie des Sciences, Belles-Lettres et Arts.
Société Linnéenne.
Metz.—Académie Nationale.
Montpellier.—Société Archéologique.

Orleans.—Société des Sciences, Belles-Lettres et Arts.
Paris.—L'Institut de France.
Société des Antiquaires.
" Asiatique.
" de Géographie.
" Géologique de France.
" Philomatique.
Bibliothèque Nationale.
Bibliothèque du Jardin des Plantes.
L'Ecole des Mines.
Société Ethnologique.
Bibliothèque de la Ville de Paris.
Société Nationale et Centrale d'Agriculture.
Ministère de la Marine.
Strasbourg.—Société des Sciences, Agriculture, et Arts, du bas Rhin.
Académie des Sciences Naturelles.
Toulouse.—Académie des Sciences, Inscriptions, et Belles-Lettres.

SWITZERLAND.

Basel.—Naturforschende Gesellschaft.
Antiquarische Gesellschaft.
Bern.—Schweizerische Gesellschaft für die Gesammten Naturwissenschaften.
Naturforschende Gesellschaft.
Geneve.—Société de Physique et d'Histoire Naturelle.
City Library.
Neuchatel.—Société des Sciences Naturelles.
Zurich.—Naturforschende Gesellschaft.
Gesellschaft für Vaterländische Alterthümer in Zurich.

ITALY.

Bologna.—Istituto delle Scienze ed Arti Liberali.
Catania.—Accademia Gioenia di Scienze Naturali.
Florence.—Biblioteca Magliabecchiana.
Lucca.—Reale Accademia Lucchese di Scienze, Lettere ed Arti.
Milan.—Biblioteca Brera.
Imperiale Regio Istituto Lombardo di Scienze, Lettere ed Arti.
Modena.—Societa Italiana delle Scienze.
Naples.—Reale Accademia delle Scienze, e Belle Lettere.
Padua.—Imperiale Regia Academia di Scienze, Lettere ed Arti.
Pisa.—University Library.
Palermo.—Royal Academy of Sciences.
Rome.—Accademia Romana di Archeologia.
Biblioteca Vaticana.
Accademia Pontifica dei Nuovi Lincei.
Turin.—Accademia Reale delle Scienze.
Venice.—Biblioteca Marciana.

PORTUGAL.

Lisbon.—Academia Real dos Sciencias.

SPAIN.

Madrid.—Real Academia Espanola.
" " de la Historia.
Academia Real de Ciencias.
Biblioteca Real.

GREAT BRITAIN AND IRELAND.

Belfast.—Natural History and Philosophical Society.
Cambridge.—Cambridge Philosophical Society.
University Library.
Observatory.
Penzance.—Royal Geological Society of Cornwail.
Dublin.—Royal Irish Academy.
Library of Trinity College.
Edinburg.—Royal Society.
Royal Scottish Society of Arts.
Royal Observatory.
Advocates' Library.
Society of Antiquaries of Scotland.
University Library.
Wernerian Society of Natural History.
Glasgow.—University Library.
Greenwich.—Royal Observatory.
London.—Royal Society.
" Astronomical Society.
" Asiatic Society.
" Geographical Society.
" Institution.
Society of Antiquaries.
Society for the Encouragement of Arts, Manufactures, and Commerce.
Linnean Society.
Geological Society.
Institution of Civil Engineers.
Zoological Society.
Entomological Society.
Statistical Society.
Microscopical Society.
Ethnological Society.
British Archæological Association.
British Museum.
Library of the House of Commons.
Horticultural Society.
Chemical Society.
Archæological Institute of Great Britain and Ireland.

Board of Admiralty.
Library of the Hon. the East India Company.
Royal College of Surgeons.
British Association.
Athenæum Club.
Philological Society.
Museum of Practical Geology.
London Library.
Leeds.—Philosophical and Literary Society.
Liverpool.—Free Public Library.
Manchester.—Literary and Philosophical Society.
Free Library and Museum.
Oxford.—Bodleian Library.
Radcliffe Observatory.
St. Andrews.—University Library.

GREECE.

Athens.—University Library.

TURKEY.

Constantinople.—Library of the Sultan.

AFRICA.

Grand Cairo.—The Egyptian Society.
Liberia.—Government Library.

ASIA.

Allahabad.—Mission College.
Batavia.—Bataviaasche Genootschap van Konsten en Wetenschappen
Bombay.—Royal Asiatic Society.
Geographical Society.
Calcutta.—Asiatic Society.
Ceylon.—Asiatic Society.
Hong Kong.—Asiatic Society of China.
Madras.—Literary Society.
Manilla.—Royal Economical Society of the Philippine Islands.

WEST INDIES AND SOUTH AMERICA.

Bogota.—Sociedad Economica de Amigos del Pais.
Caracas.—Sociedad Economica de Amigos del Pais.
Habana.—Real Sociedad Economica.
Rio Janeiro.—Imperial Brazilian Historical Society.
Chili.—Government Library.
University Library.
Mexico.—Sociedad Mexicana de Geografia y Estadistica.

REPORT OF THE GENERAL ASSISTANT, IN CHARGE OF THE METEOROLOGICAL CORRESPONDENCE.

To Joseph Henry, LL. D.,
Secretary of the Smithsonian Institution:

Sir: I herewith submit to you a report, showing the condition of the meteorological correspondence of the Institution during the year 1852.

With but few exceptions, there have been received regular monthly returns of observations from all the stations previously reported, and it is gratifying to find that the system has been extended by the addition of several stations. The new observers reside chiefly in the western and southern States—districts of country from which meteorological information was much needed. The spirit manifested by the corps of observers has also improved; as is manifest from the registers being carefully kept, and the desire of all who have but few instruments to supply themselves in this respect, and at their own cost. It is to be regretted that the limited means at the disposal of the Institution for this object, and the many demands upon it for other purposes, render it inexpedient, at present, to aid observers in the purchase of instruments.

Soon after the occurrence of an earthquake in the central part of the United States, on the 29th of April, 1852, a circular was issued by the Secretary, requesting a report of any observations which had been made or could be gathered relative to that event. Numerous replies have been received, embodying facts sufficient to enable the Institution to mark the point of chief intensity, and trace out the diverging lines along which the earth-wave passed.

Another circular has been sent out during the year, requesting persons having in their possession any meteorological registers for series of years previous to the files of the Institution, which commenced early in 1849, to transmit them for reduction. A large amount of valuable information from various parts of this country has by this means been obtained. As this collection is still in progress, a report of its results is at this time withheld. The instruments belonging to the Institution, and deposited with observers, remain as before reported.

In addition to the necessary blank forms and directions for registration of the weather, the aurora, periodical phenomena of plants, and the circulars for special observations just referred to, there have been distributed to observers a copy of the following works, viz: Sixth "Annual Report of the Smithsonian Institution;" Espy's "Report on Meteorology;" "Meteorological Report of the Surgeon General of the U. S. A.," a sufficient number of copies having been kindly placed at the disposal of the Institution by the Surgeon General for this purpose; "Directions for making collections in Natural History;" "Patent Office Report, 1850;" part 2d of "Guyot's Meteorological Tables;" and other smaller publications, not necessary to be enumerated.

I am, very respectfully, your obedient servant,

E. FOREMAN,
General Assistant Smithsonian Institution.

List of persons from whom Meteorological Observations have been received at the Smithsonian Institution during the year 1852.

State.	Name.	Residence.
MAINE	Rev. Samuel H. Merrill	Oldtown.
	George B. Barrows	Fryeburg.
	James G. Garland	Biddeford.
	Rufus Buck	Bucksport.
	S. A. Eveleth	Windham.
	Joshua Bartlett	Whitehead.
	J. D. Parker	Steuben.
	Christopher Prince	Thomaston.
	John J. Bell	Cannel.
NEW HAMPSHIRE	Dr. William Prescott	Concord.
	Robert C. Mack	Londonderry.
	Rev. Levi W. Leonard	Dublin.
	Samuel N. Bell	Manchester.
VERMONT	Rev. Zadock Thompson	Burlington.
	Prof. W. H. Parker	Middleburg.
	Lewis M. Dayton	Castleton.
	D. Underwood	Castleton.
	David Buckland	Brandon.
MASSACHUSETTS	Jacob Batchelder	Lynn.
	Samuel F. Haven	Worcester.
	William Bacon	Richmond.
	Amasa Holcomb	Southwick.
	Henry Rice	North Attleboro'.
	C. M. Freeman	Williamstown.
	Benjamin R. Gifford	Barnstable.
RHODE ISLAND	Prof. A. Caswell	Providence.
CONNECTICUT	Rev. T. L. Edwards	New London.
	Prof. Aug. W. Smith	Middletown.
	P. A. Chadbourne	East Windsor Hill.
NEW YORK	L. F. Munger	Albion.
	C. F. Maurice	Sing Sing.
	E. A. Dayton	Madrid.
	Dr. Franklin B. Hough	Somerville.
	John Bowman	Baldwinsville.
	Walter D. Yale	Houseville.
	J. E Breed	Smithville.
	Ephraim N. Byram	Sag Harbor.
	John Lefferts	Lodi.

LIST—Continued.

State.	Name.	Residence.
NEW YORK	John P. Fairchild	Seneca Falls.
	Charles A. Avery	Seneca Falls.
	John F. Jenkins	Salem Centre.
	Albert Hosmer	Fort Porter.
	J. M. Hart	Oswego.
	Mandrin Linus	Sackett's Harbor.
	James B. Trevor	Lockport.
	William E. Guest	Ogdensburg.
	Henry L. Dinsmore	Syracuse.
	Thomas B. Arden	Phillipstown.
	L. L. Fairchild	Constableville.
	Dr. P. O. Williams	Gouverneur.
NEW JERSEY	Prof. A. D. Frost	Burlington.
	R. L. Cooke	Bloomfield.
	W. A. Whitehead	Newark.
PENNSYLVANIA	W. O. Blodget	Sugar Grove.
	Prof. M. Jacobs	Gettysburg.
	Joseph Edwards J. L. Miller	Lima.
	Rev. J. G. Ralston	Norristown.
	John Jackson	Darby.
	Andrew Roulston	Freeport.
	David Peelor	Indiana.
	Corydon Marks	Manchester.
	Dr. R. P. Stevens	Ceres.
	Dr. Paul Swift	Philadelphia.
	Ebenezer Hance	Morrisville.
	E. T. Kluger E. Kummer	Nazareth.
	Dr. J. Heisely	Harrisburg.
	Orrin T. Hobbs	Randolph.
	M. H. Cobb	Honesdale.
	Dr. Henry Smyser	Pittsburg.
	W. W. Wilson	Pittsburg.
	John Comly	Byberry.
	Francis Schriener	Kingsley's P. O.
	Prof. J. A. Kirkpatrick	Philadelphia.
	Rev. David J. Eyler	Somerset.
	J. Fisher Coorlies	Philadelphia.
	M. Abbott	Summit Hill.
	Thomas Seabrook	Summitville.
	Samuel Brown	Bedford.
	Barnet McElroy	Clarksburg.

LIST—Continued.

State.	Name.	Residence.
DELAWARE	Prof. E. D. Porter	Newark.
MARYLAND	Dr. William Baer	Sykesville.
	Dr. Lewis F. Steiner	Baltimore.
	Henry E. Hanshew	Frederick.
	Lewis J. Bell	Leitersburg.
	Rev. John P. Carter	Hagerstown.
	Prof. J. P. Nelson	New Windsor.
DIST. OF COLUMBIA	Smithsonian Institution	Washington.
VIRGINIA	Dr. F. J. Mettauer	Prince Edward C.H.
	William Skeen	Huntersville.
	Lieut. R. F. Astrop	Crichton's Store.
	Charles Meriwether	Cobham.
	Dr. William N. Patton	Lewisburg.
	David Turner	Richmond.
	Dr. A. M. Grinnan	Madison.
	Prof. G. R. Rosseter	Buffalo.
	L. C. Breckenstein	Middlesex.
	Jed. Hotchkiss	Bridgewater.
	J. W. Marvin	Winchester.
	N. B. Webster	Portsmouth.
	Marshall McDonald	Romney.
NORTH CAROLINA	Prof. James Phillips	Chapel Hill.
	Rev. J. A. Shepherd	L. Scuppernong.
	Rev. Fred. Fitzgerald	Jackson.
SOUTH CAROLINA	H. W. Ravenel	St. John's, Berkely.
	Thornton Carpenter	Camden.
GEORGIA	Richard T. Gibson	Whitemarsh Island.
	Dr. George F. Cooper	Perry.
	Dr. E. M. Pendleton	Sparta.
	Dr. John F. Posey	Savannah.
	P. C. Pendleton	Powellton.
	Prof. J. E. Willet	Penfield.
	John Darby	Culloden.
ALABAMA	S. J. Cumming	Monroeville.
	Alexander Winchell	Eutaw.
	Dr. T. C. Osborne	Erie.

LIST—Continued.

State.	Name.	Residence.
FLORIDA	John Newton	Knox Hill.
	John Pearson, U. S. N.	Pensacola.
	Judge Aug. Steele	Atseena Otee.
	W. S. Bogart	Tallahassee.
MISSISSIPPI	A. L. Hatch	Vicksburg.
	Thomas Oakley	Jackson.
LOUISIANA	Dr. E. H. Barton	New Orleans.
TEXAS	J. H. Browne	Huntsville.
	Pres't T. C. Ervendberg	New Wied.
	Dr. Samuel K. Jennings	Austin.
TENNESSEE	Prof. A. P. Stewart	Lebanon.
	Prof. W. M. Stewart	Clarksville.
	Reuben Harris, U. S. N.	Memphis.
	Prof. O. W. Morris	Knoxville.
	Thomas L. Sawyer	Dixon's Springs.
KENTUCKY	John E. Younglove	Bowling Green.
	Lawrence Young	Springdale.
	F. C. Herrick	Bowling Green.
	L. Berthoud	Maysville.
OHIO	Prof. G. N. Allen	Oberlin.
	Dr. E. C. Bidwell	Keene.
	George L. Crookham	Jackson.
	S. N. Sanford	Granville.
	Edward Wade	Cleveland.
	Rev. J. D. McMatthews	Hillsborough.
	Theo. G. Wormiey	Columbus.
	F. A. Benton	Mansfield.
	Prof. J. W. Andrews	Marietta.
	Thomas F. Withrow	Homer.
	L. Groneweg	Germantown.
	Prof. J. R. W. Sloane	Northwood.
MICHIGAN	Rev. George Duffield	Detroit.
	Dr. W. M. Campbell	Battle Creek.
	Thomas Whelpley	Monroe.
	Dr. H. R. Schetterley	Howell & Ann Arbor.
	Charles Betts	Burr Oak.
	Elmore Wainright	Clinton.
	L. Woodruff	Ann Arbor.
	Dr. M. K. Taylor	Brooklyn.

LIST—Continued.

State.	Name.	Residence.
INDIANA	W. W. Austin	Richmond.
	John Chappellsmith	New Harmony.
	Prof. J. Tingley	Greencastle.
ILLINOIS	Prof. P. P. Brown	Upper Alton.
	Dr. S. B. Mead	Hancock.
	Prof. Joel Hall	Athens.
	Dr. J. O. Harris	Ottowa.
	Dr. J. B. N. Klinger	Plymouth.
IOWA	T. S. Parvin	Muscatine.
	Ida E. Ball	Keokuk.
	Daniel McCready	Fort Madison.
	Dr. Asa Horr	Dubuque.
WISCONSIN	J. A. Lapham	Milwaukee.
	Rev. John Gridley	Kenosha.
	Orrin Densmore	Emerald Grove.
	Prof. S. P. Lathrop	Beloit.
	Dr. B. F. Mills	Baraboo.
	James C. Brayton	Aztalan.
	Thomas Gay	Belle Fontaine.
	C. F. Pomeroy	Green Lake.
	Prof. J. L. Pickard	Platteville.
	William Ayres	Watertown.
	Edward Spencer	Summit.
MINNESOTA TER.	Samuel Spates	Sandy Lake.
	Charles Cavileer	Pembina.
	Alonzo Barnard	Cass Lake.
	Rev. Stephen R. Riggs	Lac-qui-Parle.
INDIAN TERRITORIES	Prof. A. G. Moffatt	Armstrong Acad'y.
OREGON	George A. Atkinson	Oregon City.
BRITISH POSSESSIONS	Capt. J. H. Lefroy	Toronto, Canada W.
	Dr. Chas. Smallwood	St. Martin's, "
	Henry Poole	Pictou, Nova Scotia.
BERMUDA, W. I.	Capt. Alexander, R. E.	Bermuda.

List of persons from whom have been received registers of periodical phenomena observed during the year 1852.

State.	Name.	Residence.
MAINE	J. D. Parker	Steuben.
	Dr. Joseph L. Stevens	Castine.
NEW HAMPSHIRE	S. N. Bell	Manchester.
	Robert C. Mack	Londonderry.
MASSACHUSETTS	William Bacon	Richmond.
	Henry Rice	N. Attleboro'.
CONNECTICUT	Prof. John Johnston	Middletown.
NEW YORK	W. E. Guest	Ogdensburg.
	Dr. Joseph Bates	Lebanon Springs.
	John F. Jenkins	North Salem.
	Cornelius Chase	Chatham, Columbia co.
	John Bratt	West Point.
	L. L. Fairchild	Constableville.
	John Bowman	Baldwinsville.
	E. N. Byram	Sag Harbor.
	W. C. Belcher	Plattsburg.
NEW JERSEY	Rev. Prof. A. Frost	Burlington.
	W. A. Whitehead	Newark.
PENNSYLVANIA	J. R. Lowrie	Hollidaysburg.
	David Peelor	Indiana.
	Prof. T. C. Porter	Mercersburg.
	John Jackson	Darby.
	Dr. R. P. Stevens	Ceres.
	Prof. J. H. Coffin	Easton.
	Prof. M. Jacobs	Gettysburg.
	John Evans	Radnor.
	Dr. George Smith	Upper Darby.
	J. S. Keller	Orwigsburg.
	Prof. L. D. Williams	Meadville.
MARYLAND	John C. Heyser	Hagerstown.
	Miss Harriet M. Baer	Sykesville.
VIRGINIA	Jedediah Hotchkiss	Mossy Creek.
	N. B. Webster	Portsmouth.
	R. F. Astrop	Genito.
	Dr. John R. Purdie	Smithfield.
	Dr. A. G. Grinnan	Madison C. H.

LIST—Continued.

State.	Name.	Residence.
SOUTH CAROLINA	Dr. J. A. Young	Camden.
ALABAMA	Alexander Winchell	Eutaw.
	Benjamin F. Holly	Weokaville.
TEXAS	T. C. Ervendberg	New Wied.
OHIO	John Lea	Cincinnati.
	Robert Shields	Belle Centre.
	L. Groneweg	Germantown.
	Miss P. D. Childs	Keene.
MICHIGAN	L. Woodruff	Ann Arbor.
	Dr. Dennis Cooley	Washington, Macomb co.
MISSOURI	Prof. John M. Ordway	Trenton, Grundy co.
IOWA	Daniel McCready	Fort Madison.

List of persons, and stations, furnishing meteorological observations to the Regents of the University of the State of New York.

Names.	Stations.
J. L. Peet	Deaf and Dumb Institute, N. Y.
Dr. Horace Webster	Free Academy, New York.
Rev. Dr. Strong	Erasmus Hall, Flatbush, L. I.
F. H. Wines	East Hampton, Long Island.
Professor T. Cook	Albany.
John D. Watkins	Liberty, Sullivan county.
M. G. McKoon	Delhi, Delaware county.
Charles G. Hazeltine	Cherry Valley.
J. O. Stratton	Oxford, Chenango county.
Professor O. Root	Hamilton College, Clinton.
Judge E. C. Reed	Homer, Cortland county.
F. B. Downes	Ithaca, Tompkins county.
Dr. M. M. Bagg	Utica.
Daniel Gillet	Elmira.
W. C. Kenyon	Alfred Academy, Alleghany co.
E. A. Dickinson	Jamestown.

LIST—Continued.

Names.	Stations.
M. H. Christian	Fredonia.
Charles Winne	Buffalo.
Rev. Dr. C. Dewey	Rochester.
Rev. B. Hale	Geneva College, Ontario county.
Lyman W. Conkey	Syracuse.
W. H. Gillespie	Mexico, Oswego county.
Joseph W. Taylor	Plattsburg.
J. F. Jenkins	Salem Centre.
W. E. Guest	Ogdensburg.
Hon. Nathaniel Jones	Newburg.

List of the persons and stations of the meteorological system of the State of Massachusetts.

Names.	Stations.
Prof. E. S. Snell	Amherst College.
Prof. Albert Hopkins	Williams College.
Henry Rice	North Attleboro'.
Richard Edwards	Bridgewater.
Rev. David Rowe	Westfield.
Dr. C. H. Perkins	Newburyport.
Joshua Davis	Truro.
Hon. William Mitchell	Nantucket.
Dr. Edward Smith	Worcester.
Hon. John Brooks	Princeton.
Moses Waite	Bernardston.
W. H. Tyler	Pittsfield.

Meteorological returns from the following army posts, received at the office of the Surgeon General U. S. Army, for the use of which the Institution is indebted to Thomas Lawson, M. D., Surgeon General U. S. Army.

Watervleit Arsenal.
Fort Ontario.
Fort Constitution.
Fort Mifflin.
Madison Barracks.
Fort Preble.
Fort Sullivan.
Fort Columbus.
Fort Hamilton.
Allegheny Arsenal.
West Point.
Fort Trumbull.
Fort Niagara.
Fort Adams.
Carlisle Barracks.
Plattsburg Barracks.
Fort McHenry.
Fort Monroe.
Fort Moultrie.
Detroit.
Fort Mackinaw.
Fort Howard.
Fort Gratiot.
Fort Gaines.
Newport Barracks.

Mount Vernon Arsenal.
Oglethorpe Barracks.
Key West.
Fort Scott.
St. Louis.
Fort Leavenworth.
Fort Kearny.
Fort Martin Scott.
Fort Gates.
Fort McIntosh.
San Antonio.
Fort Croghan.
Fort Washita.
San Diego.
Fort Smith.
Jefferson Barracks.
Fort Brady.
Fort Lincoln.
Fort Duncan.
Ringgold Barracks
Fort Brown.
Fort Towson.
Fort Gibson.
New Orleans.

REPORT OF THE EXECUTIVE COMMITTEE.

The Executive Committee submit to the Board of Regents the following report relative to the present state of the finances and the expenditures during the year 1852:

They are happy to inform the Board that, after a strict examination of the accounts, they are enabled to present a very satisfactory statement of the present condition of the finances, and the result of the investigations as to the expenditures during the year.

The whole amount of the Smithsonian bequest deposited in the treasury of the United States (from which an annual income at 6 per cent. interest is derived, of $30,910) is		$515,169 00
There is now on hand, of unexpended interest, in charge of Messrs. Corcoran & Riggs	$208,800	
Of this sum it is proposed to expend on the building	58,800	
Which will leave to be added to the principal, according to the original proposition of Prof. Bache		150,000 00
The whole fund will then be		665,169 00

The following is a general view of the receipts and expenditures during the past year:

Receipts.

From the income of the original fund	$30,910 14
From interest on the extra fund	9,129 20
Balance in the hands of the treasurer at the beginning of the year 1852	7,296 76
	47,336 10

Expenditures.

For the building	$14,047 07
For items common to the general objects of the Institution	11,505 80
For publications, researches, and lectures	12,224 48
For library, museum, and gallery of art	9,308 26
Balance in the treasury	250 49
	47,336 10

The following is a more detailed statement of the expenditures:

Statement in relation to the Expenditures of the Smithsonian Institution during the year 1852.

Building, Furniture, Fixtures, and Grounds.		
Pay on contracts	$10,000 00	
Pay of architects, superintendents, &c	1,839 83	
Expenses of Building Committee	7 50	
Miscellaneous incidental to building	1,198 64	
Furniture, &c., for uses in common	682 94	
Do. for library	265 15	
Do. for museum	3 56	
Grounds	49 45	
		$14,047 07
General Expenses.		
Expenses of Board of Regents, &c	267 18	
Lighting and heating	399 70	
Postage	472 07	
Transportation	1,827 91	
Stationery	222 38	
General printing	350 42	
Apparatus	844 88	
Incidentals, general	2,821 34	
Salaries, general	4,299 92	
		11,505 80
Publications, Researches, and Lectures.		
Smithsonian Contributions to Knowledge	5,736 74	
Reports on progress of knowledge	1,616 75	
Other publications	1,007 86	
Meteorology	2,079 88	
Investigations	75 00	
Pay of lecturers	1,385 00	
Illustrations and apparatus for lectures	230 13	
Attendance and lighting, lectures, &c	93 12	
		12,224 48
Library, Museum, and Gallery of Art.		
Cost of books	1,098 77	
General catalogue	377 25	
Copyrights	52 00	
Stereotyping	1,305 28	
Incidentals to library	1,196 48	
Salaries, library	2,499 96	
Expenses of collections, museum	215 57	
Incidentals, museum	563 01	
Salaries, museum	1,999 94	
		9,308 26
Total expended in 1852		47,085 61

A general account of the operations of the Institution is given in the report of the Secretary, to which the Board are referred. The committee are happy to be able again to assure the Board, that in their opinion the operations are such as to carry out in the most effectual manner the wise and benevolent design of James Smithson, viz: that of "*increasing* and *diffusing* knowledge among men." The only regret which can be entertained with regard to the present condition of the Institution is, that the funds are so encumbered with the restrictions imposed upon them by the original charter, that more of the income cannot be devoted to the publications and other active operations.

Respectfully submitted:

J. ALFRED PEARCE,
J. G. TOTTEN,
A. D. BACHE,
Executive Committee.

REPORT OF THE BUILDING COMMITTEE.

The Building Committee of the Smithsonian Institution presents the following report of its operations during the past year:

The contract between the Board of Regents and Gilbert Cameron has been declared completed, by Mr. Renwick. It includes the finishing of the exterior of the entire building, the interior of the extreme wings and connecting ranges, and the interior of the towers, leaving the whole interior of the main building to be finished. This comprises a space of two hundred feet long by fifty wide, and about sixty high, to be divided into a basement and two stories.

Mr. Renwick has presented to the Board his final decision as to the state of accounts between the Regents and the contractor. According to this, there is due to the latter the sum of $11,607 24.

By a resolution of the Board, all the wood-work and framing which now occupies the interior of the main building is to be removed, and its place supplied by fire-proof materials. In accordance with the direction of the Regents, the committee have procured plans and estimates of the proposed work, which are herewith submitted for the consideration of the Regents. These plans differ in some respects from the original design of the main building, and the changes are such as materially to improve the edifice, rendering it more stable and better adapted to the purposes of the Institution. Should the plans presented be adopted, the committee would advise that the new work be commenced as soon as the preliminary arrangements can be made, and prosecuted as rapidly as the funds will allow. The experience of last year has shown that, beyond a certain degree, the extension of the time of completing the building does not tend to improve the condition of the funds. The cost of superintendence is in proportion to the time, and not to the work done; and a more advantageous arrangement can be made for finishing the remainder of the building at once than by doing it in detached portions, unless the whole work be stopped for some years. The present condition of the building would scarcely warrant this measure.

Mr. Renwick, in a letter to the Regents, signified his intention of declining further services to the Institution unless his account for full salary was paid by a specified time. The Board of Regents, considering themselves unauthorized to continue his large salary for an indefinite length of time after the end of the five years, which limited the duration of the original contract, passed a resolution that his claim should be paid, provided he would report as to the state of the account between the Board and the contractor previous to the discontinuance of his services. Mr. Renwick agreed to this proposition, and in accordance with it has presented his final report to the Regents.

After Mr. Renwick left the charge of the building the committee employed Captain B. S. Alexander, of the U. S. corps of Engineers, to prepare detailed drawings and plans for rendering the remainder of the building entirely fire-proof. This gentleman is now engaged as superintendent in the erection of the military and naval asylum for the District of Columbia, and is highly recommended to the committee by the officers of the army and navy, as well as by the fact that so important a work has been intrusted to his superintendence.

Should the plans which are herewith submitted to the Board be adopted, the committee would recommend that Captain Alexander be appointed, with the consent of the superior of his corps, to superintend the completion of the building. As he is an officer of the army, on duty in this city, he will be enabled to give daily attention to the work at a comparatively small expense.

GRAHAM N. FITCH,
RICHARD RUSH,
JOHN W. MAURY,
JOSEPH HENRY,
} *Building Committee.*

PROCEEDINGS

OF THE

BOARD OF REGENTS.

SIXTH ANNUAL SESSION OF THE BOARD OF REGENTS.

[Continued from last Report.]

WASHINGTON, *June* 5, 1852.

The Board of Regents was notified to meet this day at 11 o'clock. A quorum not being present, the Board adjourned to August 7, 1852.

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WASHINGTON, *August* 7, 1852.

The Board of Regents met this evening at 7½ o'clock. Present: Messrs. Colcock, Fitch, Pearce, and Totten.

Mr. Maury, elected Mayor of Washington, and therefore *ex officio* Regent of the Smithsonian Institution, appeared and took his seat.

In the absence of the Chancellor, Mr. Pearce took the chair.

Mr. Fitch, from the Building Committee, presented to the Board a letter from James Renwick, jr., architect, informing the committee that the building, so far as it was embraced in the contract of Mr. Cameron, was completed, and recommending that six thousand dollars be advanced to the contractor from the fifteen per cent. kept back, in advance of Mr. Renwick's final certificate; also stating that it would take several days for him to make up his final award.

Mr. Fitch stated to the Board that there was now a suit pending between Mr. Cameron and his sub-contractor; and that though the Institution had no interest in this suit, the Regents had been informed that they were a party to the same. The Building Committee, therefore, thought it advisable to refer this subject to the Board.

In order to obtain further information on this point, it was, on motion, resolved to postpone the consideration until next meeting.

Mr. Fitch, from the Building Committee, also presented an account from Mr. Renwick for services from March 1 to June 1, 1852; which the committee did not feel themselves authorized to pay without an order from the Board.

Mr. Fitch also presented, from the same committee, a communication from Mr. Renwick to the Board, relative to his compensation, including another account for services to August 1, 1852.

Mr. Fitch presented a resolution relative to the payment of the accounts of Mr. Renwick, the consideration of which was postponed to the next meeting.

The Board then adjourned to Monday evening, August 9, at 7½ o'clock.

WASHINGTON, *August* 9, 1852.

The Board of Regents met this evening at 7½ o'clock. Present: Messrs. Colcock, Mason, Maury, Pearce, and Totten, of the Board, and Mr. Seaton, treasurer; and, by invitation, Mr. Lenox, late Mayor of Washington.

In the absence of the Chancellor, Mr. Pearce took the chair.

The proposition to advance Mr. Cameron six thousand dollars from the fifteen per cent. retained by the Board was brought up for consideration, and after a full discussion of the same, the following resolution, offered by Mr. Mason, was adopted:

Resolved, That the Building Committee be requested to settle the accounts of Mr. Cameron, pursuant to his contract, and that any balance that may be found due be paid him, unless, in the discretion of the committee, under advice of counsel, it may be deemed prudent by them to pay the money into court, in the pending suit to which the Institution is a party, or to withhold it until further order of the Board.

The resolution offered by Mr. Fitch at the last meeting, relative to the accounts of Mr. Renwick, was taken up; and after being modified by General Totten, was adopted, as follows:

Resolved, That Mr. Renwick, having reported by letter to the Building Committee that the Smithsonian building is completed, be notified that his services as architect are no longer required by the Regents of this Institution, and that the bills he has presented for his services up to the first of August, 1852, will be paid as soon as he shall have rendered to the Regents his final certificate of the completion of the building, according to the terms of the contract with Dixon and Cameron, as modified on the 3d July, 1850; and if the building be not completed, the said bills shall be paid upon the rendition of his certificate showing the extent to which it is completed, and the particulars in which it is unfinished; together with any plans of the building, or papers, belonging to the Institution, which may be in his possession.

Resolved, That the Secretary be authorized to pay said bills, in accordance with the foregoing resolution.

The Secretary stated that the expiration of the term of service of Mr. Lenox as a Regent, has caused a vacancy in the Building Committee.

The Chair nominated Mr. Maury to fill the vacancy; and, on motion, the nomination was confirmed.

The following resolution, offered by Mr. Totten, was adopted:

Resolved, That the Board of Regents of the Smithsonian Institution have heard with deep regret the death of Mr. Andrew J. Downing, late superintendent of the grounds of the Institution.

Resolved, That we entertain a grateful sense of the value of Mr. Downing's services in the department to which he devoted his life; and while we bow with submission to this mysterious dispensation of Providence, we feel that his decease is an irreparable loss to this Institution, to the city of Washington, and in general a public calamity.

Resolved, That we tender to the family of the deceased the expression of our sincere sympathy in this time of their affliction.

Resolved, That the Secretary be requested to send a copy of these resolutions to the family of the deceased.

The Board then adjourned *sine die*.

SEVENTH ANNUAL MEETING OF THE BOARD OF REGENTS OF THE SMITHSONIAN INSTITUTION.

WASHINGTON, *January* 5, 1853.

In accordance with a resolution of the Board of Regents of the Smithsonian Institution, fixing the time of the beginning of their annual meeting on the first Wednesday of January of each year, the Board met this day in the Regents' room, over the south entrance of the main building.

Present: Messrs. Mason, Maury, Meacham, Rush, and Totten, of the Board; and Mr. Seaton, treasurer of the Institution. Mr. Charlton, the new member appointed from the Senate U. S., was present and took his seat at the Board.

In the absence of the Chancellor, Mr. Rush was called to the chair.

The Secretary informed the Board that there were two vacancies in the list of Regents, and that the Senate had passed a resolution to fill these, which was now before the House of Representatives for concurrence. Also, that there was a vacancy in the Executive Committee, which prevents the drawing of the semi-annual interest from the treasury and the settlement of the accounts of the past year.

On motion of Mr. Mason,

Resolved, That the vacancy in the Executive Committee be filled by nomination of the Chair.

Whereupon, Mr. Mason was appointed.

The Secretary informed the Board that the accounts and reports relative to the operations of the last year would be ready for presentation at the next meeting.

Whereupon, the Board adjourned to Saturday the 15th inst., at 10 o'clock a. m.

WASHINGTON, *January* 15, 1853.

The Board of Regents met this day at 10 o'clock in the Regents' room. A quorum not being present, the meeting adjourned to 22d inst., at 11 o'clock a. m.

WASHINGTON *January* 22, 1853.

The Board of Regents met this day at 11 o'clock a. m. Present: Messrs. Charlton, Colcock, Maury, Meacham, Pearce, Rush, Totten; Mr. Seaton, treasurer; and Washington Irving, honorary member.

In the absence of the Chancellor, and on motion of Mr. Rush, Mr. Pearce took the chair.

The proceedings of the previous meeting were read and approved.

The Building Committee submitted their report, which was read and adopted.

The Secretary presented the report and final decision of James Renwick, Jr., which was read, and, on motion of General Totten, referred to the Building Committee.

The plans for finishing the central building, by Captain B. S. Alexander, corps of Engineers U. S., were presented and examined.

On motion of General Totten, the following resolutions were adopted:

Resolved, That the plans for finishing the interior of the centre building presented by Captain B. S. Alexander, corps Engineers U. S., be adopted by the Board of Regents, reserving the right, in behalf of the Building Committee, of altering the details thereof to such an extent as may seem to them proper as the work proceeds.

Resolved, That Captain Alexander be requested to give to the general supervision of the execution of his plan such time as his public duties will permit, and that he be compensated therefor to such amount as to the Building Committee shall seem just and proper.

The treasurer presented the details of the expenditures; which was, on motion, referred to the Executive Committee.

The Secretary presented his report of the operations of the Institution for the past year; which was, in part, read.

The Board then adjourned to Friday evening next, 28th instant, at 7½ o'clock.

WASHINGTON, *January* 28, 1853.

The Board of Regents met this evening at 8 o'clock in the Regents' room. Present: Messrs. Bache, Charlton, Colcock, Mason, Meacham, and Totten, of the Board, and Washington Irving, honorary member.

In the absence of the Chancellor, and on motion of Mr. Rush, Mr. Mason took the chair.

The Secretary announced to the Board that Professor A. D. Bache, of Washington, had been re-elected, by a joint resolution of the two houses of Congress, a Regent for six years; and also that the Hon. John Macpherson Berrien, of Georgia, had been elected a Regent for the same term. Mr. Bache being present, took his seat in the Board.

The proceedings of the last meeting were read and approved.

The Secretary made a statement relative to the expedition under the direction of Dr. E. K. Kane, U. S. Navy, and his want of instruments for magnetic observations in the Arctic seas, referring at the same time to the expedition to Chili, of Lieut. Gilliss, U. S. Navy, to whom a timely and highly useful grant had been made by the Board, under similar circumstances, and which had been reimbursed to the Institution.

Mr. Rush offered the following resolution, which was adopted:

Resolved, That a sum not exceeding five hundred dollars be, and the same is hereby, appropriated for the purchase of philosophical instruments to be used in the new expedition in search of Sir John Franklin in the Arctic seas, and which are to be committed to the charge of Dr. E. K. Kane, of that expedition.

The Secretary presented the application of the Rev. Mr. Dennison for the use of the lecture-room for holding religious service therein, which was referred to the Secretary.

The Secretary presented the case of Stanley's gallery of Indian portraits, for which, if they should be purchased by the government, the use of the gallery of art was considered necessary as a temporary place of deposit: also referred to the Secretary.

The reading of the annual report was then continued, including the report of Prof. Baird, Assistant Secretary, relative to exchanges.

Mr. Mason expressed a desire to resign his place as member of the Executive Committee, which he had accepted with a view to the re-appointment of Mr. Bache as Regent, and his subsequent re-election as a member of the Executive Committee.

The resignation of Mr. Mason was accepted, and Mr. Bache re-elected.

A letter was presented from Gilbert Cameron, requesting, on account of his reputation, to be allowed to finish the centre building, and claiming this privilege as a right under his general contract: referred to the Building Committee.

The Board then adjourned to Thursday evening, February 3, at 6½ o'clock.

WASHINGTON, *February* 3, 1853.

The Board of Regents met this evening at 8 o'clock. Present: Messrs. Bache, Charlton, Colcock, Mason, Maury, Meacham, and Totten, of the Board, and Washington Irving, honorary member.

Mr. Mason took the chair.

The proceedings of the previous meeting were read and approved.

The Building Committee, to which was referred the letter of Mr. Cameron relative to his right to the contract for finishing the centre building, reported progress, and presented a communication from Mr. Carlisle upon this subject, which was then referred back to the committee.

The Secretary presented a plan of a building for a magnetic observatory near the Institution; stating, also, that instruments of the best construction, now in the possession of the Superintendent of the U. S. Coast Survey, would be furnished.

Mr. Colcock offered the following resolution, which was adopted:

Resolved, That a magnetic observatory be erected, under the supervision of the Building Committee, at such place on the grounds of the Institution as they may select, and according to a plan to be approved by them, and that the sum of eleven hundred dollars is hereby appropriated therefor.

A communication from Captain Lefroy, R. A., was presented and read, relative to the discontinuance of the magnetic observatory of Toronto, Canada West: referred to the Executive Committee and the Secretary, who were requested to memorialize the British government on the subject.

The correspondence between the Secretary and Mrs. A. J. Downing, upon the transmission of the resolutions of the Board upon receiving information of the death of Mr. Downing, was read.

The Secretary also informed the Board of the recent death of Sears C. Walker, esq., and of Prof. C. B. Adams, of Amherst College, Massachusetts; whereupon the following resolutions, offered by Mr. Bache, were adopted:

Resolved, That the Regents of the Smithsonian Institution have heard with deep regret the announcement of the death of Sears C. Walker, esq., whose communications in the Smithsonian Transactions on the planet Neptune have attracted the notice and won the approval and admiration of astronomers throughout the world.

Resolved, That the Regents offer to the family of Mr. Walker their condolence on the loss which they have sustained.

Resolved, That the Regents of the Smithsonian Institution have heard with regret the decease of their valued correspondent, Prof. C. B. Adams, which occurred at St. Thomas, while he was engaged in making collections in natural history, to which science he was devoted; and offer to his family their condolence on the loss which they have sustained.

The Board then adjourned, to meet on Saturday, the 12th inst., at 10 o'clock a. m.

WASHINGTON, *February* 12, 1853.

The Board of Regents met this day at 10 o'clock a. m. Present: Messrs. Bache, Fitch, Maury, Meacham, and Pearce, of the Board, and Washington Irving, honorary member.

On motion, Mr. Pearce took the chair.

The proceedings of the previous meeting were read and approved.

Mr. Bache, in behalf of the Executive Committee, presented a letter to be forwarded to the British Home and Colonial governments, to urge the continuance of the Toronto observatory.

The Secretary presented to the consideration of the Board the necessity of making provision for the investment of the surplus fund in the event of the petition now before Congress relative to it not being acted on.

The Chair stated it to be the opinion of Mr. Corcoran, who had been present, that the State stocks of North Carolina would be a suitable and safe means of investment: referred to the Executive Committee.

The Secretary presented for the examination of the Board a manuscript memoir, by J. A. Lapham, relative to the mounds of Wisconsin, received from the American Antiquarian Society of Worcester, and mentioned in the sixth Annual Report.

The Secretary presented the case of the late Prof. C. B. Adams, whose draft for one hundred and fifty dollars had been honored by the

Institution. A letter from Thomas Bland, esq., on the part of the family of Prof. A., was read, offering to refund the money or send to the Institution a portion of the collections in natural history made by Prof. Adams in his last expedition.

The subject was referred to the Secretary, with the understanding that the collections be accepted, and that the repayment of the money be not required from the executors of Prof. Adams.

The Secretary presented the subject of the compensation of Dr. J. G. Flügel, of Leipsic, the agent for Smithsonian exchanges in Central Europe.

The following resolution, offered by Mr. Bache, was adopted:

Resolved, That the compensation of Dr. J. G. Flügel, agent at Leipsic for the reception and distribution of publications on the part of the Smithsonian Institution for Central America, be three hundred dollars per annum until otherwise ordered by the Board.

The reading of the Secretary's report was continued, including an account of the operations in meteorology during the past year; also including the operations relative to the library, under the care of Prof. Jewett.

An extensive collection of MS. bills, inventories, and other accounts of business in private English families, from 1632 to 1750, in fifty-four volumes, presented by Mr. J. O. Halliwell, was laid on the table for examination; and, on motion, the following resolution was adopted:

Resolved, That the Secretary be requested to transmit to Mr. J. O. Halliwell, of London, an expression of the grateful sense entertained by the Board of Regents of the munificent gift received from him, and of the honor done the Institution by selecting it as a place of deposit for these interesting documents.

The operations of the stereotyping department were presented by the Secretary, and a statement made of its capability of preparing and printing catalogues of all the libraries in the United States.

On motion, the following preamble and resolution were adopted:

Whereas a plan for stereotyping catalogues by separate titles, and for preparing and printing the catalogues of the various libraries in the United States in uniform style, and at greatly diminished cost, as well as for forming a general catalogue of all these libraries, was presented to the Smithsonian Institution and referred to two commissions—one to report upon the literary advantages of the plan, and the other upon the practicability of the means proposed for its execution:

And whereas, on the recommendation of these commissions, the Smithsonian Institution has incurred the expense of procuring type and apparatus, of educating workmen, and of developing and perfecting processes to be employed, so that all arrangements are now made for the successful prosecution of the work:

And whereas the first commission appointed to examine the plan, in their report, recommended that, "In order that a beginning might be made in the execution of the plan under circumstances highly favorable to its success, the undersigned take the liberty of suggesting that it would be advisable for the Regents of the Smithsonian Institution to obtain the requisite authority to prepare a catalogue of the library of Congress on the above described plan:" Therefore, *Resolved,* That the Secretary of the Institution be requested to call the attention of the Library Committee of Congress to the above described plan, to inform them that the Institution is now ready to execute the proposed work, and to invite their co-operation in aid of an enterprise so important to the library of Congress, to all the libraries in the country, and to the great object of this Institution, "the increase and diffusion of knowledge."

Mr. Pearce, as chairman, presented from the Executive Committee their annual report in relation to the finances and expenditures of the Institution during the year 1852.

The Board then adjourned, to meet at the call of the Secretary.

ERRATUM.

For the date of Professor Henry's letter transmitting Report, read "March 1, 1853," instead of "August 20, 1852."

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